



# **STIC Search Report**

## **EIC 1700**

**STIC Database Tracking Number: 184542**

**TO: Dawn Garrett**  
**Location: REM 10C79**  
**Art Unit : 1774**  
**April 11, 2006**

**Case Serial Number: 10/774577**

**From: Les Henderson**  
**Location: EIC 1700**  
**REMSSEN 4B30**  
**Phone: 571/272-2538**  
**Leslie.Henderson@uspto.gov**

### **Search Notes**



# STIC Search Results Feedback Form

**EIC17000**

Questions about the scope or the results of the search? Contact *the EIC searcher* or contact:

Kathleen Fuller, EIC 1700 Team Leader  
571/272-2505 REMSEN 4B28

## Voluntary Results Feedback Form

- I am an examiner in Workgroup:  Example: 1713  
➤ Relevant prior art **found**, search results used as follows:

- ☐ 102 rejection
- ☐ 103 rejection
- ☐ Cited as being of interest.
- ☐ Helped examiner better understand the invention.
- ☐ Helped examiner better understand the state of the art in their technology.

Types of relevant prior art found:

- ☐ Foreign Patent(s)
- ☐ Non-Patent Literature  
(journal articles, conference proceedings, new product announcements etc.)

➤ Relevant prior art **not found**:

- ☐ Results verified the lack of relevant prior art (helped determine patentability).
- ☐ Results were not useful in determining patentability or understanding the invention.

Comments:

Drop off or send completed forms to EIC1700 REMSEN 4B28

Access DB# 84/542

# SEARCH REQUEST FORM

Scientific and Technical Information Center

Requester's Full Name: DAWN GARRETT Examiner #: 76107 Date: 4/6/06  
Art Unit: 1774 Phone Number: 302-1523 Serial Number: 10/774577  
Mail Box and Bldg/Room Location: Rensselaer 10C79 Results Format Preferred (circle): PAPER DISK E-MAIL

If more than one search is submitted, please prioritize searches in order of need.  
\*\*\*\*\*

Please provide a detailed statement of the search topic, and describe as specifically as possible the subject matter to be searched. Include the elected species or structures, keywords, synonyms, acronyms, and registry numbers, and combine with the concept or utility of the invention. Define any terms that may have a special meaning. Give examples or relevant citations, authors, etc, if known. Please attach a copy of the cover sheet, pertinent claims, and abstract.

Title of Invention: (See Bib Data Sheet attached)  
Inventors (please provide full names): \_\_\_\_\_  
Earliest Priority Filing Date: \_\_\_\_\_

\*For Sequence Searches Only\* Please include all pertinent information (parent, child, divisional, or issued patent numbers) along with the appropriate serial number.

Please search the compound shown in claims 1, 8, 10, 12.

Thank you.

SCIENTIFIC REFERENCE BR  
Sci & Tech Inf. Cntr

APR 7 RECD

Pat. & T.M. Office

STAFF USE ONLY		Type of Search	Vendors and cost where applicable
Searcher: <u>20X</u>	NA Sequence (#)	STN	<u>800 809 \$805.42</u>
Searcher Phone #:	AA Sequence (#)	Dialog	
Searcher Location:	Structure (#) <u>3</u>	Questel/Orbit	
Date Searcher Picked Up:	Bibliographic	Dr.Link	
Date Completed: <u>4/10/06</u>	Litigation	Lexis/Nexis	
Searcher Prep & Review Time: <u>30</u>	Fulltext	Sequence Systems	
Clerical Prep Time: <u>30</u>	Patent Family	WWW/Internet	
Online Time: <u>95</u>	Other	Other (specify)	

=> d his ful

(FILE 'HOME' ENTERED AT 14:08:40 ON 10 APR 2006)

FILE 'HCAPLUS' ENTERED AT 14:08:51 ON 10 APR 2006

E US20050175857/PN

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D ALL  
SEL RN

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OR 49610-35-7/BI OR 604-53-5/BI OR 676553-38-1/BI OR  
76-86-8/BI OR 7726-95-6/BI OR 861909-11-7/BI OR  
861909-12-8/BI)  
D SCAN

FILE 'HCAPLUS' ENTERED AT 14:12:51 ON 10 APR 2006

D L1 ALL

FILE 'REGISTRY' ENTERED AT 14:14:57 ON 10 APR 2006

D SCAN

D L2 1-9 RN STR

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L3 STR 604-53-5

FILE 'REGISTRY' ENTERED AT 14:16:48 ON 10 APR 2006

L4 50 SEA SSS SAM L3

D QUE STAT

L5 SCR 1918 OR 2043

L6 50 SEA SSS SAM L3 NOT L5

L7 10634 SEA SSS FUL L3 NOT L5

SAV L7 GAR577/A

L8 5 SEA ABB=ON PLU=ON L7 AND L2

D SCAN

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L9 STR L3

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D SCAN

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SAV L11 GAR577A/A

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L12 STR L3

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SAV L14 GAR577B/A

D QUE STAT L11

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D QUE STAT

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D SCAN

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SAV L17 GAR577C/A

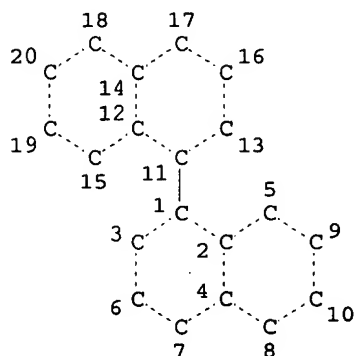
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 L20 69 SEA ABB=ON PLU=ON L11  
 L21 2044 SEA ABB=ON PLU=ON L14  
 L22 22 SEA ABB=ON PLU=ON L17  
 L23 0 SEA ABB=ON PLU=ON L18 AND L19 AND L20 AND L22  
 L24 69 SEA ABB=ON PLU=ON L20 AND L19  
 L25 10 SEA ABB=ON PLU=ON L20 AND L18  
 L26 22 SEA ABB=ON PLU=ON L20 AND L22  
 L27 0 SEA ABB=ON PLU=ON L22 AND L18  
 L28 22 SEA ABB=ON PLU=ON L22 AND L19  
 L29 22 SEA ABB=ON PLU=ON L22 AND L20  
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 L31 32 SEA ABB=ON PLU=ON (L25 OR L26 OR L27 OR L28 OR L29  
 OR L30)  
 L32 69 SEA ABB=ON PLU=ON L31 OR L24  
 L33 1313541 SEA ABB=ON PLU=ON OPTIC?/SC,SX  
 L34 342 SEA ABB=ON PLU=ON L19 AND L33  
 L35 21 SEA ABB=ON PLU=ON L32 AND L33  
 L36 54 SEA ABB=ON PLU=ON L18 AND L33  
 L37 4 SEA ABB=ON PLU=ON L33 AND L22  
 L38 72 SEA ABB=ON PLU=ON (L35 OR L36 OR L37)  
 L39 21 SEA ABB=ON PLU=ON L35 OR L37  
 L40 116756 SEA ABB=ON PLU=ON ELECTROLUM!N? OR ORGANOLUM!N? OR  
 (ELECTRO OR ORGANO OR ORG#) (2A)LUM!N? OR LIGHT?(2A) (EMI  
 T? OR EMISSION?) OR EL OR E(W)L OR OLED OR L(W)E(W)D  
 OR LED/IT  
 L41 122 SEA ABB=ON PLU=ON L19 AND L40  
 L42 32 SEA ABB=ON PLU=ON L21 AND L40  
 L43 2559 SEA ABB=ON PLU=ON L18 OR L20 OR L21 OR L22  
 L44 59 SEA ABB=ON PLU=ON L40 AND L43  
 L45 24 SEA ABB=ON PLU=ON L44 AND L38  
 L46 QUE ABB=ON PLU=ON ELECTROD? OR CATHOD? OR ANOD?  
 L47 13 SEA ABB=ON PLU=ON L44 AND L46  
 L48 31 SEA ABB=ON PLU=ON L41 AND L46  
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 L51 58 SEA ABB=ON PLU=ON L50 NOT L45  
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 L53 51 SEA ABB=ON PLU=ON L52 OR L47  
 L54 51 SEA ABB=ON PLU=ON L53 OR L39

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 L3 STR

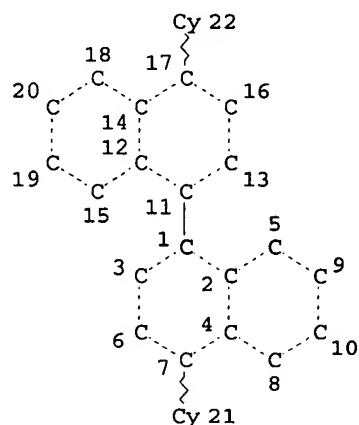


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 RSPEC I  
 NUMBER OF NODES IS 20

STEREO ATTRIBUTES: NONE

L5 SCR 1918 OR 2043  
 L7 10634 SEA FILE=REGISTRY SSS FUL L3 NOT L5  
 L8 5 SEA FILE=REGISTRY ABB=ON PLU=ON L7 AND L2  
 L9 STR

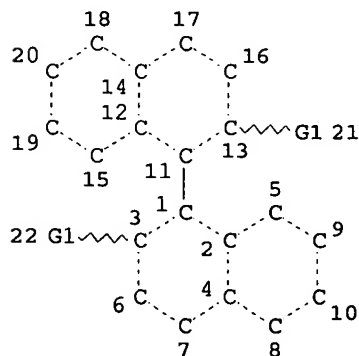


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O~Ak  
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N~C  
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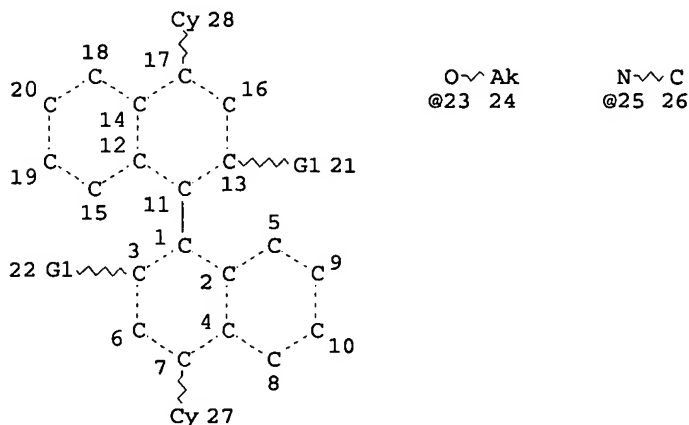
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L15 STR



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DEFAULT MLEVEL IS ATOM

DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:

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NUMBER OF NODES IS 28

STEREO ATTRIBUTES: NONE

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L19 7354 SEA FILE=HCAPLUS ABB=ON PLU=ON L7

L20 69 SEA FILE=HCAPLUS ABB=ON PLU=ON L11

L21 2044 SEA FILE=HCAPLUS ABB=ON PLU=ON L14

L22 22 SEA FILE=HCAPLUS ABB=ON PLU=ON L17

L24 69 SEA FILE=HCAPLUS ABB=ON PLU=ON L20 AND L19

L25 10 SEA FILE=HCAPLUS ABB=ON PLU=ON L20 AND L18

L26 22 SEA FILE=HCAPLUS ABB=ON PLU=ON L20 AND L22

L27 0 SEA FILE=HCAPLUS ABB=ON PLU=ON L22 AND L18

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L30 22 SEA FILE=HCAPLUS ABB=ON PLU=ON L22 AND L21

L31 32 SEA FILE=HCAPLUS ABB=ON PLU=ON (L25 OR L26 OR L27 OR L28 OR L29 OR L30)

L32 69 SEA FILE=HCAPLUS ABB=ON PLU=ON L31 OR L24

L33 1313541 SEA FILE=HCAPLUS ABB=ON PLU=ON OPTIC?/SC,SX

L35 21 SEA FILE=HCAPLUS ABB=ON PLU=ON L32 AND L33

L36 54 SEA FILE=HCAPLUS ABB=ON PLU=ON L18 AND L33

L37 4 SEA FILE=HCAPLUS ABB=ON PLU=ON L33 AND L22

L38 72 SEA FILE=HCAPLUS ABB=ON PLU=ON (L35 OR L36 OR L37)

L39 21 SEA FILE=HCAPLUS ABB=ON PLU=ON L35 OR L37

L40 116756 SEA FILE=HCAPLUS ABB=ON PLU=ON ELECTROLUM!N? OR ORGANOLUM!N? OR (ELECTRO OR ORGANO OR ORG#) (2A) LUM!N? OR LIGHT? (2A) (EMIT? OR EMISSION?) OR EL OR E(W)L OR OLED OR L(W)E(W)D OR LED/IT

L43 2559 SEA FILE=HCAPLUS ABB=ON PLU=ON L18 OR L20 OR L21 OR L22

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L45 24 SEA FILE=HCAPLUS ABB=ON PLU=ON L44 AND L38

L46 QUE ABB=ON PLU=ON ELECTROD? OR CATHOD? OR ANOD?

L47 13 SEA FILE=HCAPLUS ABB=ON PLU=ON L44 AND L46

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=> d 154 1-51 ibib abs hitstr hitind

L54 ANSWER 1 OF 51 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2006:81604 HCAPLUS

TITLE: Optical properties of oligo(2,3-dioxyfunctionalized)naphthalenes

AUTHOR(S): Tsubaki, Kazunori; Miura, Masaya; Nakamura, Asao; Kawabata, Takeo

CORPORATE SOURCE: Institute for Chemical Research, Kyoto University, Gokasho, Uji, Kyoto, 611-0011, Japan

SOURCE: Tetrahedron Letters (2006), 47(8), 1241-1244  
 CODEN: TELEAY; ISSN: 0040-4039

PUBLISHER: Elsevier B.V.

DOCUMENT TYPE: Journal

LANGUAGE: English

AB The properties of 2 series of oligo(2,3-dioxyfunctionalized)naphthalenes which are connected at the 1,4-positions, i.e., methoxy derivs. and derivs. that possess 2 pyrene groups on the central scaffolding O functions, are described. In methoxy derivs., the fluorescence quantum yields increased by .apprx.20-80% as the number of naphthalene units increased. The intramol. energy transfer quantum yields of derivs. that possess 2 pyrene groups were .apprx.20% regardless of the number of naphthalene units.

IT INDEXING IN PROGRESS

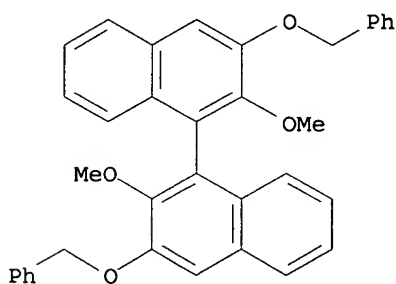
IT 651026-26-5 651026-29-8 651026-32-3

651026-37-8 651299-89-7

RL: PEP (Physical, engineering or chemical process); PRP (Properties); PYP (Physical process); PROC (Process) (of oligo(dioxyfunctionalized)naphthalenes)

RN 651026-26-5 HCAPLUS

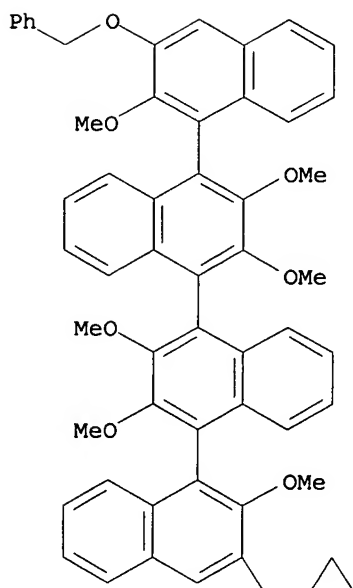
CN 1,1'-Binaphthalene, 2,2'-dimethoxy-3,3'-bis(phenylmethoxy)-, (1S)-(9CI) (CA INDEX NAME)



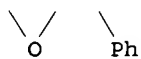
RN 651026-29-8 HCAPLUS

CN 1,1':4',1'':4'',1''':4'''-Quaternaphthalene, 2,2',2'',2''',3',3''-hexamethoxy-3,3'''-bis(phenylmethoxy)-, (1S,1''S,1'''S)- (9CI) (CA INDEX NAME)

PAGE 1-A



PAGE 2-A

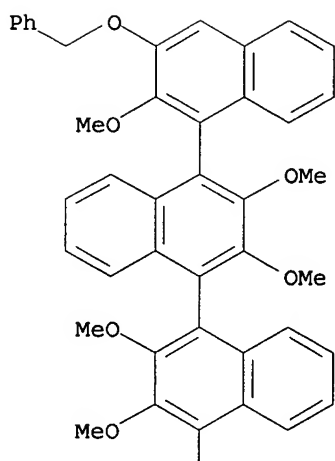


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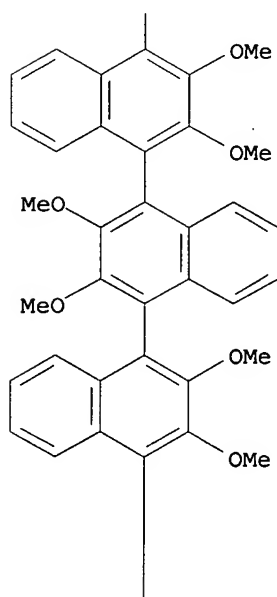
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      bis(phenylmethoxy)-, (1S,1'S,1''S,1'''S,1''':S,1''':S,1''':S,1''':S,1''':S)-
      'S)- (9CI) (CA INDEX NAME)

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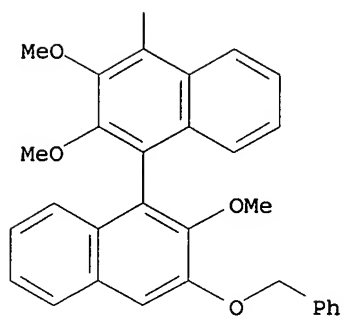
PAGE 1-A



PAGE 2-A

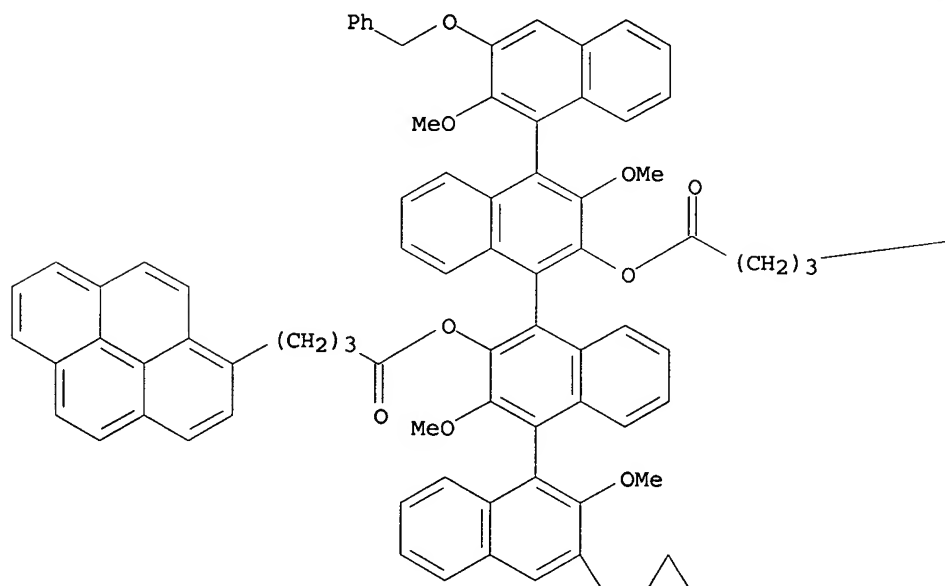


PAGE 3-A

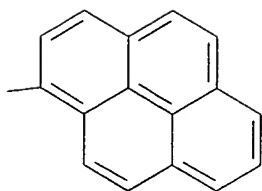


RN 651026-37-8 HCAPLUS  
 CN 1-Pyrenebutanoic acid, (1S,1''S,1'''S)-2,2',2'''-3,3'-tetramethoxy-3,3'''-bis(phenylmethoxy) [1,1':4',1'':4'',1'''-quaternaphthalene]-2'',3'-diyl ester (9CI) (CA INDEX NAME)

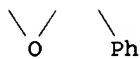
PAGE 1-A



PAGE 1-B



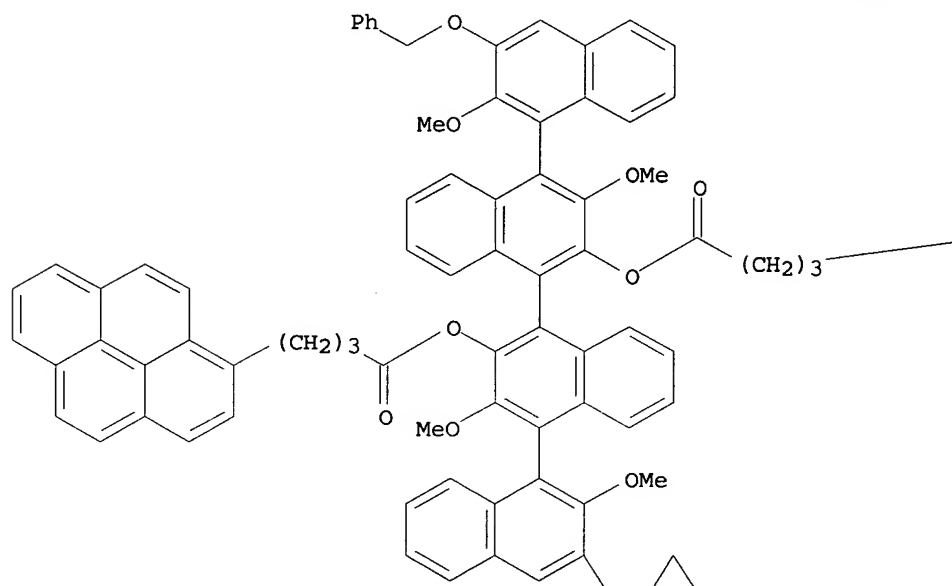
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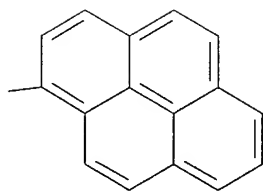
RN 651299-89-7 HCAPLUS

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3,3'''-bis(phenylmethoxy) [1,1':4',1''':4'',1'''-quaternaphthalene]-  
2'',3'-diyl ester (9CI) (CA INDEX NAME)

PAGE 1-A



PAGE 1-B



PAGE 2-A



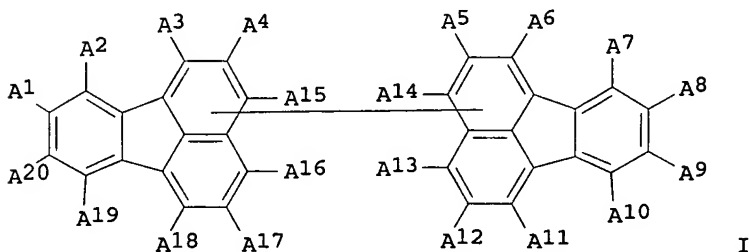


CC 73-4 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)  
 Section cross-reference(s): 22  
 IT 70570-29-5 651026-26-5 651026-29-8  
 651026-32-3 651026-37-8 651299-89-7  
 656832-08-5  
 RL: PEP (Physical, engineering or chemical process); PRP (Properties); PYP (Physical process); PROC (Process)  
 (of oligo(dioxyfunctionalized)naphthalenes)  
 REFERENCE COUNT: 22 THERE ARE 22 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

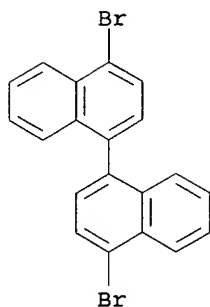
L54 ANSWER 2 OF 51 HCAPLUS COPYRIGHT 2006 ACS on STN  
 ACCESSION NUMBER: 2005:979216 HCAPLUS  
 DOCUMENT NUMBER: 143:275302  
 TITLE: Organic luminescent material for organic electroluminescent device  
 INVENTOR(S): Matsunami, Shigeyuki; Takada, Kazunori  
 PATENT ASSIGNEE(S): Sony Corp., Japan  
 SOURCE: Jpn. Kokai Tokkyo Koho, 27 pp.  
 CODEN: JKXXAF  
 DOCUMENT TYPE: Patent  
 LANGUAGE: Japanese  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2005240008	A2	20050908	JP 2004-280869	2004 0928
PRIORITY APPLN. INFO.:			JP 2004-17910	A 2004 0127

GI



AB The invention relates to an organic luminescent material, suited for used in an organic electroluminescent device, represented by I [A1-20 = N, halo, OH, C<sub>≤</sub>20 carboxyl, C<sub><</sub>20 carboxylate, C<sub>≤</sub>20 alkyl, C<sub>≤</sub>20 alkenyl, C<sub>≤</sub>20 alkoxy, C<sub>≤</sub>30 aryl, C<sub>≤</sub>30 heterocyclic, CN, NO<sub>2</sub>, and SiH<sub>3</sub>].  
 IT 49610-35-7  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (organic luminescent material for org . electroluminescent device)  
 RN 49610-35-7 HCAPLUS  
 CN 1,1'-Binaphthalene, 4,4'-dibromo- (9CI) (CA INDEX NAME)



IC ICM C09K011-06  
ICS H05B033-14  
CC 73-11 (Optical, Electron, and Mass Spectroscopy and  
Other Related Properties)  
Section cross-reference(s): 25  
ST **org luminescent material bifluoranthene**  
**electroluminescent device**  
IT **Electroluminescent devices**  
Fluorescent substances  
(**organic luminescent material for org**  
.**electroluminescent device**)  
IT 18351-87-6P, 3,3'-Bifluoranthene 863878-54-0P,  
8,8'-Bifluoranthene 863878-55-1P, 2,2'-Bifluoranthene  
863878-56-2P 863878-60-8P 863878-63-1P  
RL: DEV (Device component use); SPN (Synthetic preparation); PREP  
(Preparation); USES (Uses)  
(**organic luminescent material for org**  
.**electroluminescent device**)  
IT 2969-58-6 13438-50-1 26885-42-7 49610-33-5  
**49610-35-7** 73183-34-3 244205-40-1 851756-50-8  
863878-57-3  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(**organic luminescent material for org**  
.**electroluminescent device**)  
IT 863878-53-9P 863878-58-4P 863878-59-5P 863878-61-9P  
863878-62-0P  
RL: RCT (Reactant); SPN (Synthetic preparation); PREP  
(Preparation); RACT (Reactant or reagent)  
(**organic luminescent material for org**  
.**electroluminescent device**)

L54 ANSWER 3 OF 51 HCAPLUS COPYRIGHT 2006 ACS on STN  
ACCESSION NUMBER: 2005:735143 HCAPLUS  
DOCUMENT NUMBER: 143:202688  
TITLE: Novel blue emitters for use in organic  
**electroluminescence devices**  
INVENTOR(S): Coggan, Jennifer A.; Hu, Nan-Xing; Aziz, Hany  
PATENT ASSIGNEE(S): Xerox Corporation, USA  
SOURCE: U.S. Pat. Appl. Publ., 21 pp.  
CODEN: USXXCO  
DOCUMENT TYPE: Patent  
LANGUAGE: English  
FAMILY ACC. NUM. COUNT: 1  
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2005175857	A1	20050811	US 2004-774577	2004 0209

*applicant*

JP 2005222948 A2 20050818 JP 2005-28449

2005  
0204

EP 1580250 A2 20050928 EP 2005-250649

2005  
0204R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE,  
MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ,  
EE, HU, PL, SK, BA, HR, IS, YU

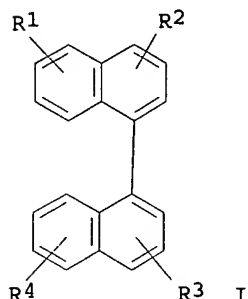
PRIORITY APPLN. INFO.:

US 2004-774577

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2004  
0209*current  
application*

GI



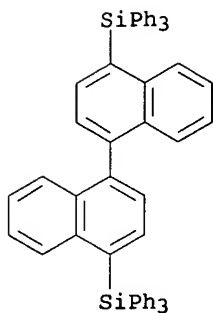
AB The invention refers to an **electroluminescent** (**EL**) is provided comprising an **anode**, an organic **electroluminescent** element, and a **cathode** wherein the **electroluminescent** element contains, for example, a fluorescent 1,1'-binaphthyl derivative component I [R1-4 = H, or C1-25 alkyl, C3-15 alicyclic alkyl, (un)C 6-30 substituted aryl, C atoms from 4 to 24 necessary to complete a fused aromatic ring of naphthalene, anthracene, perylene and the like, C3-15 alicyclic alkyl, Si which may be substituted with a tri-Me, diphenylmethyl, tri-Ph group and the like, C5-24 (un)substituted heteroaryl, C atoms necessary to complete a fused heteroarom. ring of furyl, thienyl, pyridyl, quinolinyl and other heterocyclic systems, C1-25 alkoxy, amino, alkyl amino or aryl amino, halo, cyano, and the like].

IT **676553-38-1P 861909-12-8P**, 2,1':4',1':4'',2'''-Quaternaphthalene

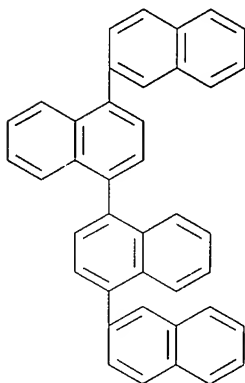
RL: DEV (Device component use); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)  
(novel blue emitters for use in organic **electroluminescence** devices)

RN 676553-38-1 HCAPLUS

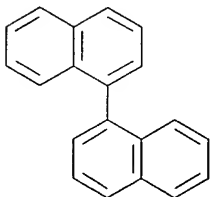
CN Silane, [1,1'-binaphthalene]-4,4'-diylbis[triphenyl- (9CI) (CA INDEX NAME)



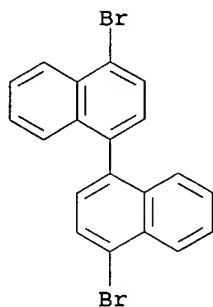
RN 861909-12-8 HCAPLUS  
 CN 2,1':4',1'':4'',2'''-Quaternaphthalene (9CI) (CA INDEX NAME)



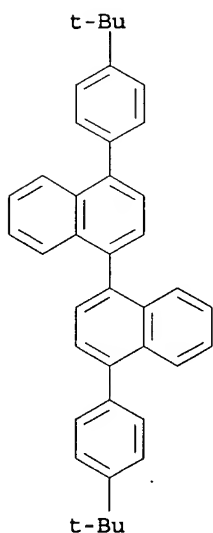
IT 604-53-5, 1,1'-Binaphthalene  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (novel blue emitters for use in organic  
 electroluminescence devices)  
 RN 604-53-5 HCAPLUS  
 CN 1,1'-Binaphthalene (9CI) (CA INDEX NAME)



IT 49610-35-7P, 4,4'-Dibromo-1,1'-binaphthyl  
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP  
 (Preparation); RACT (Reactant or reagent)  
 (novel blue emitters for use in organic  
 electroluminescence devices)  
 RN 49610-35-7 HCAPLUS  
 CN 1,1'-Binaphthalene, 4,4'-dibromo- (9CI) (CA INDEX NAME)



IT 861909-11-7P  
 RL: SPN (Synthetic preparation); PREP (Preparation)  
 (novel blue emitters for use in organic  
 electroluminescence devices)  
 RN 861909-11-7 HCAPLUS  
 CN 1,1'-Binaphthalene, 4,4'-bis[4-(1,1-dimethylethyl)phenyl]- (9CI)  
 (CA INDEX NAME)



IC ICM H05B033-14  
 INCL 428690000; 428917000; 313504000; 313506000; 257103000  
 CC 73-11 (Optical, Electron, and Mass Spectroscopy and  
 Other Related Properties)  
 ST electroluminescence device binaphthyl fluorescent  
 material  
 IT Electroluminescent devices  
 Fluorescent substances  
 (novel blue emitters for use in organic  
 electroluminescence devices)  
 IT 676553-38-1P 861909-12-8P, 2,1':4',1'':4'',2'''-  
 Quaternaphthalene  
 RL: DEV (Device component use); SPN (Synthetic preparation); PREP  
 (Preparation); USES (Uses)  
 (novel blue emitters for use in organic  
 electroluminescence devices)  
 IT 76-86-8, Triphenylsilyl chloride 604-53-5,  
 1,1'-Binaphthalene 7726-95-6, Bromine, reactions 32316-92-0,  
 2-Naphthalene boronic acid 123324-71-0, 4-tert-Butylphenyl

boronic acid

RL: RCT (Reactant); RACT (Reactant or reagent)  
(novel blue emitters for use in organic  
electroluminescence devices)

IT 49610-35-7P, 4,4'-Dibromo-1,1'-binaphthyl

RL: RCT (Reactant); SPN (Synthetic preparation); PREP  
(Preparation); RACT (Reactant or reagent)  
(novel blue emitters for use in organic  
electroluminescence devices)

IT 861909-11-7P

RL: SPN (Synthetic preparation); PREP (Preparation)  
(novel blue emitters for use in organic  
electroluminescence devices)

L54 ANSWER 4 OF 51 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2005:623673 HCAPLUS

DOCUMENT NUMBER: 143:277631

TITLE: A chiral porous 3D metal-organic framework  
with an unprecedented 4-connected network  
topology

AUTHOR(S): Wu, Chuan-De; Lin, Wenbin

CORPORATE SOURCE: Department of Chemistry, University of North  
Carolina, Chapel Hill, NC, 27599, USA

SOURCE: Chemical Communications (Cambridge, United  
Kingdom) (2005), (29), 3673-3675  
CODEN: CHCOFS; ISSN: 1359-7345

PUBLISHER: Royal Society of Chemistry

DOCUMENT TYPE: Journal

LANGUAGE: English

OTHER SOURCE(S): CASREACT 143:277631

AB A novel homochiral 3-dimensional metal-organic framework  
[CdL2(H2O)2][ClO4]2·2DMF·3EtOH·5/3H2O (1, L =  
(R)-6,6'-dichloro-2,2'-diethoxy-1,1'-binaphthyl-4,4'-bipyridine)  
was prepared and characterized by x-ray crystallog. and IR  
spectroscopy. 1 Exhibits an unprecedented 4-connected network  
topol. owing to the cis-configuration of the Cd coordination and  
possesses permanent porosity as demonstrated by TGA, XRPD, and CO2  
adsorption isotherm studies.

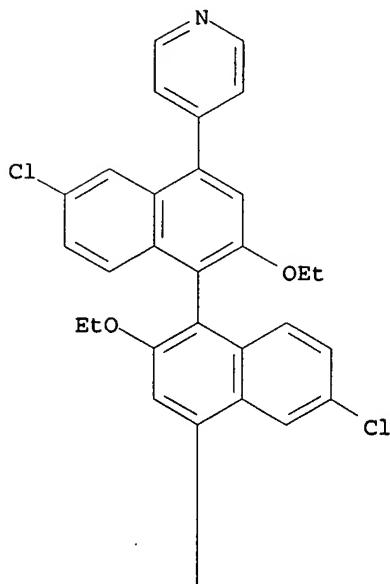
IT 431043-34-4, (R)-6,6'-Dichloro-2,2'-diethoxy-1,1'-  
binaphthyl-4,4'-bipyridine

RL: RCT (Reactant); RACT (Reactant or reagent)  
(reactant for preparation of cadmium dichlorodiethoxybinaphthylbipyridine aqua homochiral 3-dimensional metal-organic framework  
polymer complex with 4-connected network topol. and permanent  
porosity)

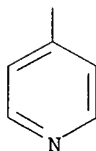
RN 431043-34-4 HCAPLUS

CN Pyridine, 4,4'-[(1R)-6,6'-dichloro-2,2'-diethoxy[1,1'-  
binaphthalene]-4,4'-diyl]bis- (9CI) (CA INDEX NAME)

PAGE 1-A



PAGE 2-A



CC 78-7 (Inorganic Chemicals and Reactions)  
 Section cross-reference(s): 66, 75  
 IT 431043-34-4, (R)-6,6'-Dichloro-2,2'-diethoxy-1,1'-  
 binaphthyl-4,4'-bipyridine  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (reactant for preparation of cadmium dichlorodiethoxybinaphthylbipyridine aqua homochiral 3-dimensional metal-organic framework polymer complex with 4-connected network topol. and permanent porosity)

REFERENCE COUNT: 27 THERE ARE 27 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L54 ANSWER 5 OF 51 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2005:591930 HCAPLUS

DOCUMENT NUMBER: 143:122849

TITLE: Organic **electroluminescent** devices employing diphenanthryl-substituted material as hole blocking layer with improved stability

INVENTOR(S): Seo, Jeong Dae; Park, Chun Gun; Jeong, Hyun Cheol; Lee, Kyung Hoon

PATENT ASSIGNEE(S): Lg Electronics Inc., S. Korea

SOURCE: U.S. Pat. Appl. Publ., 11 pp.

CODEN: USXXCO

DOCUMENT TYPE: Patent

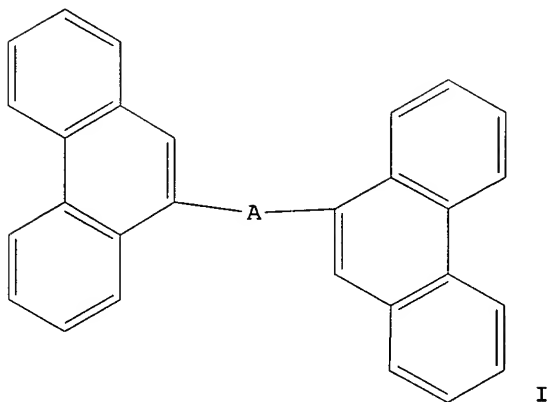
LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

## PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2005146268	A1	20050707	US 2005-28734	2005 0105
EP 1553155	A1	20050713	EP 2004-31026	2004 1230
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, PL, SK, BA, HR, IS, YU				
CN 1638573	A	20050713	CN 2005-10000191	2005 0106
JP 2005197262	A2	20050721	JP 2005-1603	2005 0106
PRIORITY APPLN. INFO.:			KR 2004-624	A 2004 0106

GI



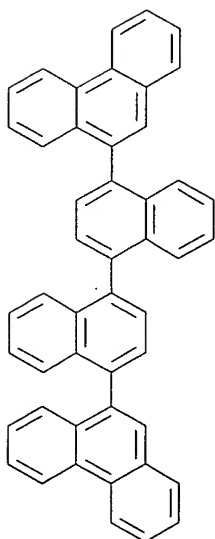
**AB** An organic **electroluminescence** device is disclosed which comprises an emitting layer and a hole blocking layer disposed between an electron injecting **electrode (cathode)** and a hole injecting **electrode (anode)**, the material for the hole blocking layer being expressed by the chemical formula (I) where A is selected from the group consisting of a substituted or non-substituted aromatic group and a hetero ring group.

**IT** 857293-45-9  
 RL: DEV (Device component use); USES (Uses)  
 (organic **electroluminescent** devices employing  
 diphenanthryl-substituted material as hole blocking layer with  
 improved stability)

**RN** 857293-45-9 HCAPLUS

**CN** Phenanthrene, 9,9'-[1,1'-binaphthalene]-4,4'-diylbis- (9CI) (CA  
 INDEX NAME)





IC ICM H01J063-04  
 INCL 313506000  
 CC 73-11 (Optical, Electron, and Mass Spectroscopy and  
 Other Related Properties)  
 Section cross-reference(s): 22, 76  
 ST org **electroluminescent** device diphenanthryl hole  
 blocking  
 IT **Electroluminescent** devices  
 (organic **electroluminescent** devices employing  
 diphenanthryl-substituted material as hole blocking layer with  
 improved stability)  
 IT 2085-33-8, Aluminum tris(8-hydroxyquinolinato) 58328-31-7, CBP  
 123847-85-8, NPD 331749-28-1 722498-56-8 857293-30-2  
 857293-31-3 857293-32-4 857293-33-5 857293-34-6  
 857293-35-7 857293-36-8 857293-37-9 857293-38-0  
 857293-39-1 857293-40-4 857293-41-5 857293-42-6  
 857293-43-7 857293-44-8 **857293-45-9** 857293-46-0  
 857293-47-1 857293-48-2 857293-49-3 857293-50-6  
 857293-51-7 857293-53-9 857293-54-0  
 RL: DEV (Device component use); USES (Uses)  
 (organic **electroluminescent** devices employing  
 diphenanthryl-substituted material as hole blocking layer with  
 improved stability)  
 IT 359014-72-5  
 RL: DEV (Device component use); MOA (Modifier or additive use);  
 USES (Uses)  
 (organic **electroluminescent** devices employing  
 diphenanthryl-substituted material as hole blocking layer with  
 improved stability)  
 IT 857293-29-9P 857293-52-8P  
 RL: DEV (Device component use); PRP (Properties); SPN (Synthetic  
 preparation); PREP (Preparation); USES (Uses)  
 (organic **electroluminescent** devices employing  
 diphenanthryl-substituted material as hole blocking layer with  
 improved stability)  
 L54 ANSWER 6 OF 51 HCAPLUS COPYRIGHT 2006 ACS on STN  
 ACCESSION NUMBER: 2005:540633 HCAPLUS  
 DOCUMENT NUMBER: 143:68043  
 TITLE: Use of platinum II complexes as luminescent  
 materials in organic **light-**  
**emitting** diodes (OLEDs)  
 INVENTOR(S): Lennartz, Christian; Vogler, Arnd; Pawlowski,

Valeri  
 PATENT ASSIGNEE(S): BASF Aktiengesellschaft, Germany  
 SOURCE: PCT Int. Appl., 30 pp.  
 CODEN: PIXXD2  
 DOCUMENT TYPE: Patent  
 LANGUAGE: German  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2005056712	A1	20050623	WO 2004-EP13944	2004 1208

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW  
 RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG

DE 10358665	A1	20050707	DE 2003-10358665	2003 1212
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PRIORITY APPLN. INFO.: DE 2003-10358665 A 2003  
1212

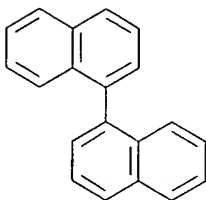
OTHER SOURCE(S): MARPAT 143:68043

AB The use is described of neutral platinum II complexes of bidentate (hetero)arylphosphine derivs., o-phenanthroline derivs, and bipyridyl derivs. as emitter mols. in organic **light-emitting diodes (OLEDs)**. The use of the platinum II complexes as a **light-emitting layer in OLEDs**, a **light-emitting layer containing  $\geq 1$  platinum II complex**, an **OLED containing the light-emitting layer**, and devices, especially displays, comprising the **OLEDs** are also described.

IT 604-53-5, 1,1'-Binaphthalene  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (platinum complex **luminescent materials** in **organic light-emitting diodes**)

RN 604-53-5 HCAPLUS

CN 1,1'-Binaphthalene (9CI) (CA INDEX NAME)



IC ICM C09K011-06

ICS H01L051-30

CC 73-5 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)

Section cross-reference(s): 74, 76, 78

ST org light emitting diode platinum complex  
luminescent material

IT Electroluminescent devices  
(displays, organic; platinum complex luminescent  
materials in organic light-emitting  
diodes)

IT Luminescent screens  
(electroluminescent, organic; platinum complex  
luminescent materials in organic light  
-emitting diodes)

IT Electroluminescent devices  
(organic; platinum complex luminescent  
materials in organic light-emitting  
diodes)

IT Luminescent substances  
(platinum complex luminescent materials in  
organic light-emitting diodes)

IT 592-06-3, Platinum dicyanide 604-53-5,  
1,1'-Binaphthalene 1662-01-7, 4,7-Diphenyl-1,10-phenanthroline  
13991-08-7, 1,2-Bis(diphenylphosphino)benzene 72914-19-3  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(platinum complex luminescent materials in  
organic light-emitting diodes)

IT 127793-58-2P 134494-09-0P 850449-34-2P 850449-35-3P  
RL: SPN (Synthetic preparation); TEM (Technical or engineered  
material use); PREP (Preparation); USES (Uses)  
(platinum complex luminescent materials in  
organic light-emitting diodes)

REFERENCE COUNT: 6 THERE ARE 6 CITED REFERENCES AVAILABLE  
FOR THIS RECORD. ALL CITATIONS AVAILABLE  
IN THE RE FORMAT

L54 ANSWER 7 OF 51 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2005:57666 HCAPLUS

DOCUMENT NUMBER: 142:165277

TITLE: Organic electroluminescent devices  
containing oligonaphthalene compounds and  
showing stable blue emission

INVENTOR(S): Takada, Kazunori; Sakamoto, Hidesaku;  
Ichimura, Mari; Tamura, Shinichiro

PATENT ASSIGNEE(S): Sony Corp., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 17 pp.  
CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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JP 2005019219	A2	20050120	JP 2003-182779	2003 0626

PRIORITY APPLN. INFO.: JP 2003-182779

2003  
0626

OTHER SOURCE(S): MARPAT 142:165277

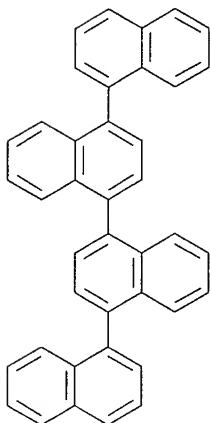
AB The devices, showing long service life and high luminescent  
efficiency, have emitting layers containing [C1-4 alkyl(oxy)- and/or  
amino-substituted] di-, tri-, and/or tetranaphthalene compds.

IT 828269-29-0P, 1,1':4',1'':4'',1'''-Quaternaphthalene  
RL: DEV (Device component use); IMF (Industrial manufacture); PREP  
(Preparation); USES (Uses)

(emitting layers; organic **electroluminescent** devices containing oligonaphthalene compds. and showing stable blue emission)

RN 828269-29-0 HCAPLUS

CN 1,1':4',1'':4'',1'''-Quaternaphthalene (9CI) (CA INDEX NAME)



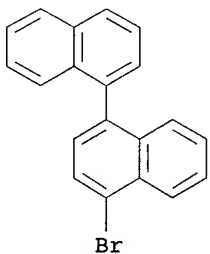
IT 49610-33-5, 4-Bromo-1,1'-binaphthalene

RL: RCT (Reactant); RACT (Reactant or reagent)

(organic **electroluminescent** devices containing oligonaphthalene compds. and showing stable blue emission)

RN 49610-33-5 HCAPLUS

CN 1,1'-Binaphthalene, 4-bromo- (9CI) (CA INDEX NAME)



IC ICM H05B033-14

ICS C09K011-06; H05B033-22; C07C015-24; C07C211-58

CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)

Section cross-reference(s): 25

ST oligonaphthalene blue emitting **org** LED  
**luminescent** efficiency

IT **Electroluminescent** devices

(blue-emitting; organic **electroluminescent** devices containing oligonaphthalene compds. and showing stable blue emission)

IT Luminescent substances

(**electroluminescent**, blue-emitting; organic **electroluminescent** devices containing oligonaphthalene compds. and showing stable blue emission)

IT 828269-25-6 828269-26-7 828269-27-8 828269-28-9

RL: DEV (Device component use); USES (Uses)

(emitting layers; organic **electroluminescent** devices containing oligonaphthalene compds. and showing stable blue emission)

IT 647836-55-3P, 2,2':6',2'':6'',2'''-Quaternaphthalene  
828269-29-0P, 1,1':4',1'':4'',1'''-Quaternaphthalene  
828269-30-3P  
RL: DEV (Device component use); IMF (Industrial manufacture); PREP  
(Preparation); USES (Uses)  
(emitting layers; organic electroluminescent devices  
containing oligonaphthalene compds. and showing stable blue  
emission)

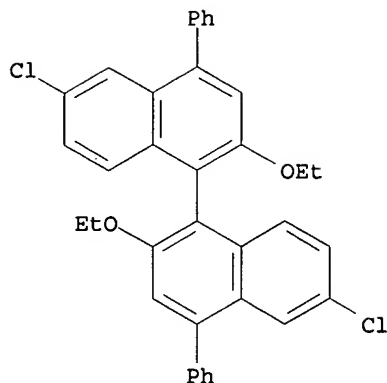
IT 32316-92-0 49610-33-5, 4-Bromo-1,1'-binaphthalene  
62156-75-6, 6-Bromo-2,2'-binaphthalene 817210-34-7  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(organic electroluminescent devices containing  
oligonaphthalene compds. and showing stable blue emission)

L54 ANSWER 8 OF 51 HCAPLUS COPYRIGHT 2006 ACS on STN  
ACCESSION NUMBER: 2005:41368 HCAPLUS  
DOCUMENT NUMBER: 142:261248  
TITLE: Development of 4,4'-substituted-XylBINAP  
ligands for highly enantioselective  
hydrogenation of ketones  
AUTHOR(S): Ngo, Helen L.; Lin, Wenbin  
CORPORATE SOURCE: Department of Chemistry, University of North  
Carolina, Chapel Hill, NC, 27599, USA  
SOURCE: Journal of Organic Chemistry (2005), 70(4),  
1177-1187  
CODEN: JOCEAH; ISSN: 0022-3263  
PUBLISHER: American Chemical Society  
DOCUMENT TYPE: Journal  
LANGUAGE: English

AB A family of 4,4'-substituted-xylBINAPs was synthesized in  
multistep sequences and characterized by NMR spectroscopy and mass  
spectrometry. Ru(diphosphine)(diamine)Cl<sub>2</sub> complexes based on  
these 4,4'-substituted-xylBINAPs and chiral diamines (DPEN and  
DAIPEN) were synthesized by treatment of [(benzene)RuCl<sub>2</sub>]<sub>2</sub> with  
4,4'-substituted-xylBINAP followed by chiral diamine, and  
characterized by <sup>1</sup>H and <sup>31</sup>P NMR spectroscopy and mass  
spectrometry. These Ru complexes were used for asym.  
hydrogenation of aromatic ketones in a highly enantioselective manner  
with complete conversion. With very low catalyst loading,  
complete conversion and excellent enantioselectivity obtained for  
most of the aromatic ketones examined. A single-crystal X-ray  
diffraction study of Ru[(R)-L<sub>4</sub>][(R,R)-DPEN]Cl<sub>2</sub> indicated that the  
4-Me group of the naphthyl ring and the Me groups of the two xyllyl  
moieties form a fence on the opposite side of the DPEN ligand of  
the Ru center. These three Me groups will have significant  
repulsive interactions with the bulky aryl ring of the  
hydrogen-bonded aromatic ketone in the disfavored transition state.  
These results supported the hypothesis of combining dual modes of  
enantiocontrol (i.e., the substituents on 4,4'-positions of the  
binaphthyl framework and the Me groups on the bis(xyllyl)phosphino  
moieties) to achieve higher stereoselectivity in the hydrogenation  
of aromatic ketones.

IT 846606-59-5P  
RL: RCT (Reactant); SPN (Synthetic preparation); PREP  
(Preparation); RACT (Reactant or reagent)  
(preparation of dichloro(diphenyl)BINOL triflate via cross-coupling  
of diethoxy(tetrahalo)binaphthyl with phenylboronic acid  
followed by hydrolysis and triflation in the preparation of  
substituted XylBINAP ligands)

RN 846606-59-5 HCAPLUS  
CN 1,1'-Binaphthalene, 6,6'-dichloro-2,2'-diethoxy-4,4'-diphenyl-,  
(1R)- (9CI) (CA INDEX NAME)



CC 25-7 (Benzene, Its Derivatives, and Condensed Benzenoid Compounds)  
 Section cross-reference(s): 75, 78  
 IT 846606-59-5P 846606-60-8P 846606-61-9P  
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP  
 (Preparation); RACT (Reactant or reagent)  
 (preparation of dichloro(diphenyl)BINOL triflate via cross-coupling  
 of diethoxy(tetrahalo)binaphthyl with phenylboronic acid  
 followed by hydrolysis and triflation in the preparation of  
 substituted XylBINAP ligands)

REFERENCE COUNT: 34 THERE ARE 34 CITED REFERENCES AVAILABLE  
 FOR THIS RECORD. ALL CITATIONS AVAILABLE  
 IN THE RE FORMAT

L54 ANSWER 9 OF 51 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2005:9066 HCAPLUS

DOCUMENT NUMBER: 142:282750

TITLE: Highly interpenetrated metal-organic  
 frameworks for hydrogen storage

AUTHOR(S): Kesanli, Banu; Cui, Yong; Smith, Milton R.;  
 Bittner, Edward W.; Brockrath, Bradley C.;  
 Lin, Wenbin

CORPORATE SOURCE: Department of Chemistry, CB#3290, University  
 of North Carolina, Chapel Hill, NC, 27599, USA

SOURCE: Angewandte Chemie, International Edition  
 (2004), Volume Date 2005, 44(1), 72-75

CODEN: ACIEF5; ISSN: 1433-7851

PUBLISHER: Wiley-VCH Verlag GmbH & Co. KGaA

DOCUMENT TYPE: Journal

LANGUAGE: English

OTHER SOURCE(S): CASREACT 142:282750

AB Highly interpenetrating metal-organic frameworks were synthesized  
 from zinc salts (i.e.,  $\text{Zn}(\text{ClO}_4)_2$  or  $\text{ZnI}_2$ ) and aromatic-rich  
 dicarboxylic acids (i.e., 6,6'-dichloro-2,2'-diethoxy-1,1'-  
 binaphthyl-4,4'-dibenzoic acid (I) and 6,6'-dichloro-2,2'-  
 dibenzoyloxy-1,1'-binaphthyl-4,4'-dibenzoic acid (II)), to form  
 crystalline materials of general structures  $[\text{Zn}_4(\mu_4\text{-O})(\text{I})_3(\text{DMF})_2] \cdot 4\text{DMF} \cdot 3\text{MeOH} \cdot 2\text{H}_2\text{O}$  and  $[\text{Zn}_4(\mu_4\text{-O})(\text{II})_3] \cdot 5\text{DMF} \cdot 5\text{EtOH} \cdot \text{H}_2\text{O}$ . These materials, with single-crystal  
 x-ray diffraction patterns that suggest a fourfold  
 three-dimensional interpenetrating networks, have hydrogen uptakes  
 comparable to those of the best carbon nanotubes. The mechanism  
 of hydrogen uptake seems to be favored by the proximity of aromatic  
 rings.

IT 847237-14-3P 847237-15-4P 860004-93-9P

860005-02-3P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP

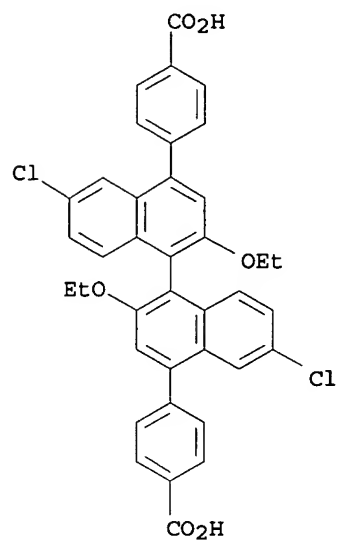
(Preparation); RACT (Reactant or reagent)

(synthesis of and zinc salt formation from; zinc

naphthalenecarboxylate-based highly interpenetrating frameworks  
for enhanced hydrogen storage)

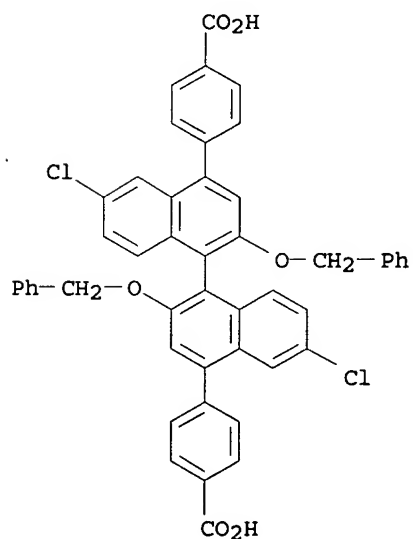
RN 847237-14-3 HCAPLUS

CN Benzoic acid, 4,4'-[6,6'-dichloro-2,2'-diethoxy[1,1'-  
binaphthalene]-4,4'-diyl]bis- (9CI) (CA INDEX NAME)



RN 847237-15-4 HCAPLUS

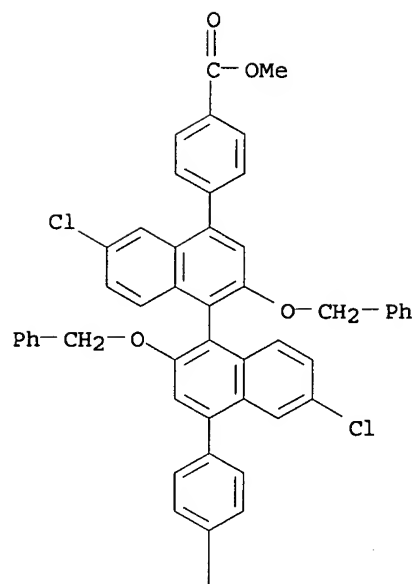
CN Benzoic acid, 4,4'-[6,6'-dichloro-2,2'-bis(phenylmethoxy)[1,1'-  
binaphthalene]-4,4'-diyl]bis- (9CI) (CA INDEX NAME)



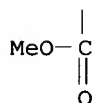
RN 860004-93-9 HCAPLUS

CN Benzoic acid, 4,4'-[6,6'-dichloro-2,2'-bis(phenylmethoxy)[1,1'-  
binaphthalene]-4,4'-diyl]bis-, dimethyl ester (9CI) (CA INDEX  
NAME)

PAGE 1-A



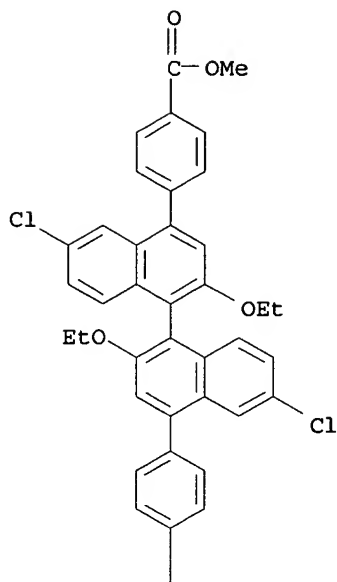
PAGE 2-A



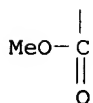
RN 860005-02-3 HCAPLUS  
CN Benzoic acid, 4,4'-(6,6'-dichloro-2,2'-diethoxy[1,1'-  
binaphthalene]-4,4'-diyl)bis-, dimethyl ester (9CI) (CA INDEX  
NAME)



PAGE 1-A



PAGE 2-A



CC 52-2 (Electrochemical, Radiational, and Thermal Energy Technology)

Section cross-reference(s): 78

IT 847237-14-3P 847237-15-4P 860004-93-9P

860005-02-3P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP

(Preparation); RACT (Reactant or reagent)

(synthesis of and zinc salt formation from; zinc naphthalenecarboxylate-based highly interpenetrating frameworks for enhanced hydrogen storage)

REFERENCE COUNT: 3 THERE ARE 3 CITED REFERENCES AVAILABLE  
FOR THIS RECORD. ALL CITATIONS AVAILABLE  
IN THE RE FORMAT

L54 ANSWER 10 OF 51 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2004:1014710 HCAPLUS

DOCUMENT NUMBER: 142:13465

TITLE: Charge transporting material for electroluminescent device

INVENTOR(S): Takeuchi, Masako; Shiotani, Takeshi; Fugono, Masayo

PATENT ASSIGNEE(S): Mitsubishi Chemical Corp., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 48 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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JP 2004335415

A2

20041125

JP 2003-133434

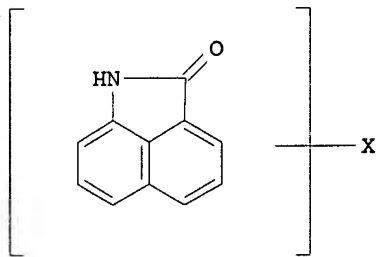
2003  
0512

PRIORITY APPLN. INFO.:

JP 2003-133434

2003  
0512OTHER SOURCE(S):  
GI

MARPAT 142:13465



AB Disclosed is a charge transporting material for an **electroluminescent** device, represented by I [X = n valent connecting group bonded to C and N atoms of lactam structure; and n = 2 or 3].

IT **797035-62-2P**

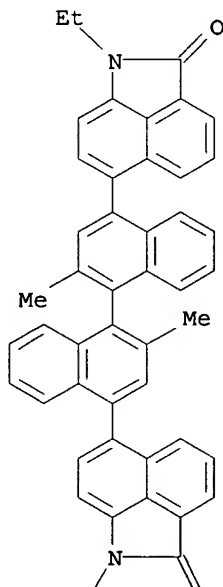
RL: DEV (Device component use); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)

(charge transporting material for **electroluminescent** device)

RN 797035-62-2 HCAPLUS

CN Benz[cd]indol-2(1H)-one, 6,6'-(2,2'-dimethyl[1,1'-binaphthalene]-4,4'-diyl)bis[1-ethyl- (9CI) (CA INDEX NAME)

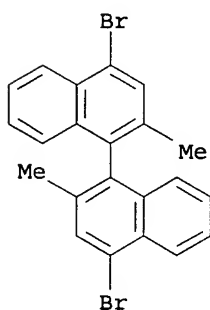
PAGE 1-A



PAGE 2-A



IT 797035-61-1  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (charge transporting material for **electroluminescent**  
 device)  
 RN 797035-61-1 HCAPLUS  
 CN 1,1'-Binaphthalene, 4,4'-dibromo-2,2'-dimethyl- (9CI) (CA INDEX  
 NAME)



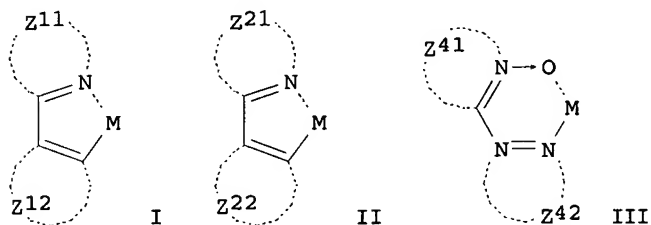
IC ICM H05B033-22  
 ICS C09K011-06; H05B033-14  
 CC 73-11 (**Optical**, Electron, and Mass Spectroscopy and  
 Other Related Properties)  
 ST lactam charge transporting material **electroluminescent**  
 device  
 IT **Electroluminescent** devices  
 (charge transporting material for **electroluminescent**  
 device)  
 IT Lactams  
 RL: DEV (Device component use); SPN (Synthetic preparation); PREP  
 (Preparation); USES (Uses)  
 (charge transporting material for **electroluminescent**  
 device)  
 IT 797035-62-2P  
 RL: DEV (Device component use); SPN (Synthetic preparation); PREP  
 (Preparation); USES (Uses)  
 (charge transporting material for **electroluminescent**  
 device)  
 IT 41503-32-6 73183-34-3 797035-61-1  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (charge transporting material for **electroluminescent**  
 device)  
 IT 797035-60-0P  
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP  
 (Preparation); RACT (Reactant or reagent)  
 (charge transporting material for **electroluminescent**  
 device)

L54 ANSWER 11 OF 51 HCAPLUS COPYRIGHT 2006 ACS on STN  
 ACCESSION NUMBER: 2004:739385 HCAPLUS  
 DOCUMENT NUMBER: 141:268179  
 TITLE: Long-life white-emitting organic  
**electroluminescent** devices, displays,

illumination apparatus, and electric appliances therewith  
 INVENTOR(S): Fukuda, Mitsuhiro; Genda, Kazuo  
 PATENT ASSIGNEE(S): Konica Minolta Holdings, Inc., Japan  
 SOURCE: Jpn. Kokai Tokkyo Koho, 577 pp.  
 CODEN: JKXXAF  
 DOCUMENT TYPE: Patent  
 LANGUAGE: Japanese  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2004253298	A2	20040909	JP 2003-43860	2003 0221
PRIORITY APPLN. INFO.:			JP 2003-43860	2003 0221

OTHER SOURCE(S): MARPAT 141:268179  
 GI



AB The devices have, in their constituent layers (e.g., emitting layers, hole- or electron-transporting layers), (i) compds. represented by  $X1R1C:CR2X2$  [ $X1, X2 = \text{aryl, heterocycle; } R1, R2 = \text{aryl, heterocyclic hydrocarbyl, cycloalkoxy (} R1 = R2 = \text{aryl})$ ],  $R1R12R13R14R15P$  ( $R11-R15 = \text{monovalent substituent}$ ),  $Ar2Ar1C6H4(m-Ar1Ar2)$  [ $Ar1 = \text{bivalent aromatic hydrocarbylene; } Ar2 = (\text{substituted}) \text{ Ph; H atom on the benzene ring may be substituted with (cyclo)alkyl, alkoxy, or halo; } Z(ArQ)n$  [ $Q = (\text{substituted}) \text{ o-(2-pyridyl)phenyl; } Z = \text{n-valent bridging group, single bond; } Ar = \text{bivalent arylene; } n = 2-8$ ], etc., (ii) fluorescent compds. with mol. weight 500-2000 and atomic ratio  $F/(F + H)$  0-0.9 and having fluorescent peak at  $\leq 415 \text{ nm}$ , (iii) polysilanes  $(R21R22Si)n$  [ $R21, R22 = \text{alkyl(oxy), aromatic group, aryloxy; } n1 \geq 3$ ] or  $[R31(Ar31NR32R33)Si]n$  [ $R31 = \text{alkyl(oxy), aromatic group, aryloxy; } R32, R33 = \text{alkyl, aromatic group; } Ar31 = \text{arylene; } n2 \geq 3$ ], and/or (iv) fluorescent compds. satisfying atomic ratio  $N/C$  0-0.05. The devices, having phosphorescent dopants I ( $Z11 = \text{aromatic azacycle; } Z12 = \text{nonarom. ring, 5-membered aromatic ring, azulene; } M = \text{metal}$ ), II ( $Z21, Z22 = \text{aromatic azacycle; } M = \text{metal}$ ), or III ( $Z41 = \text{azacycle; } Z42 = \text{ring; } M = \text{metal}$ ) in emitting layers, are also claimed. The devices exhibit high luminescent efficiency and substantially white emission, and are suited for light source uses, especially of LCD.

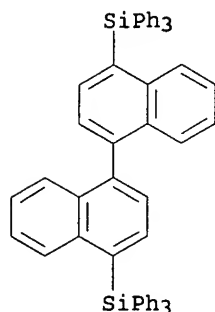
IT 676553-38-1

RL: DEV (Device component use); USES (Uses)  
 (long-life white-emitting organic LED containing azacyclic phosphorescent dopants and showing high luminescent efficiency)

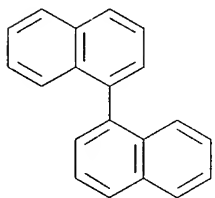
RN 676553-38-1 HCAPLUS

CN Silane, [1,1'-binaphthalene]-4,4'-diylbis[triphenyl- (9CI) (CA

## INDEX NAME)



IT 604-53-5P, 1,1'-Binaphthalene  
 RL: IMF (Industrial manufacture); RCT (Reactant); PREP  
 (Preparation); RACT (Reactant or reagent)  
 (long-life white-emitting organic LED containing azacyclic  
 phosphorescent dopants and showing high luminescent efficiency)  
 RN 604-53-5 HCAPLUS  
 CN 1,1'-Binaphthalene (9CI) (CA INDEX NAME)



IC ICM H05B033-14  
 ICS C09K011-06; G02F001-1335; H05B033-22  
 CC 73-11 (Optical, Electron, and Mass Spectroscopy and  
 Other Related Properties)  
 Section cross-reference(s): 25, 28, 29, 38, 74  
 ST white emitting electroluminescent life luminescent  
 efficiency; phosphorescent azacyclic dopant luminescent  
 efficiency org LED; LCD light source white  
 emitting electrophosphorescent  
 IT Luminescent substances  
 (electroluminescent, electrophosphorescent,  
 host-guest; long-life white-emitting organic LED containing  
 azacyclic phosphorescent dopants and showing high luminescent  
 efficiency)  
 IT Phosphorescent substances  
 (electrophosphorescent; long-life white-emitting organic  
 LED containing azacyclic phosphorescent dopants and showing  
 high luminescent efficiency)  
 IT Fluorescent substances  
 (fluorine- or nitrogen-containing; long-life white-emitting organic  
 LED containing azacyclic phosphorescent dopants and showing  
 high luminescent efficiency)  
 IT Liquid crystal displays  
 (light sources for; long-life white-emitting organic LED  
 containing azacyclic phosphorescent dopants and showing high  
 luminescent efficiency)  
 IT Electric apparatus  
 (long-life white-emitting organic LED containing azacyclic  
 phosphorescent dopants and showing high luminescent efficiency)  
 IT Organometallic compounds

## Polysilanes

RL: DEV (Device component use); USES (Uses)

(long-life white-emitting organic LED containing azacyclic phosphorescent dopants and showing high luminescent efficiency)

## IT Electroluminescent devices

(white-emitting, electrophosphorescent; long-life white-emitting organic LED containing azacyclic phosphorescent dopants and showing high luminescent efficiency)

IT 71-43-2, Benzene, uses 159-68-2, 9,9'-Spirobi[9H-9-silafluorene]

346-02-1 752-28-3 1423-70-7 17742-49-3 18822-13-4

20156-53-0 32314-41-3 33861-11-9 35088-77-8 38186-32-2

54765-15-0 65181-79-5 122107-04-4 133942-93-5 139376-06-0

142289-08-5 203070-80-8 213621-16-0 219917-71-2

288581-17-9 300823-56-7 300823-57-8 301300-11-8

332350-53-5 405171-49-5 405171-87-1 405172-39-6

453590-51-7 478262-73-6 478262-74-7 478262-76-9

478262-77-0 478262-78-1 478262-79-2 478370-42-2

492446-94-3 492446-97-6 497097-34-4 497097-36-6

511270-11-4 522630-08-6 522630-12-2 522630-19-9

522630-30-4 522630-34-8 522630-36-0 557787-50-5

557787-51-6 557787-53-8 557787-54-9 557787-56-1

557787-57-2 557787-58-3 557787-59-4 564483-87-0

567625-72-3 567625-73-4 567625-75-6 567625-78-9

567625-80-3 569674-85-7 569674-87-9 569674-89-1

569674-90-4 569674-92-6 569674-94-8 569674-95-9

569674-96-0 583040-29-3 583040-30-6 583040-31-7

583040-32-8 583040-34-0 583040-40-8 587877-29-0

587877-33-6 587877-38-1 587877-50-7 606142-46-5

606142-48-7 606142-49-8 606142-50-1 606142-51-2

606142-52-3 606142-55-6 606142-58-9 606142-59-0

606142-60-3 606142-61-4 608145-70-6 608145-80-8

608145-85-3 620630-42-4 620630-43-5 620630-45-7

620630-46-8 620630-51-5 620630-52-6 620630-53-7

620630-54-8 620630-56-0 620630-57-1 620630-58-2

620630-59-3 620630-61-7 620630-63-9 620630-64-0

620630-65-1 620630-66-2 620630-67-3 640773-62-2

640773-65-5 640773-68-8 643029-54-3 643029-58-7

643029-59-8 643029-60-1 643029-61-2 643029-63-4

643753-82-6 643758-09-2 643758-10-5 643758-15-0

644973-61-5 644973-63-7 644973-65-9 644973-67-1

645399-24-2 645399-25-3 645399-27-5 645399-33-3

645399-37-7 650606-83-0 650606-86-3 650606-88-5

650606-89-6 650606-91-0 650606-97-6 655236-05-8

655236-07-0 655236-12-7 655240-48-5 655240-49-6

663219-23-6 663219-25-8 663219-28-1 663219-29-2

663219-39-4 666839-78-7 666839-81-2 666839-86-7

666839-89-0 666839-92-5 669072-36-0 669072-52-0

669072-60-0 669072-72-4 676553-38-1 688315-81-3

688315-82-4 688315-83-5 688315-84-6 688315-86-8

688315-87-9 688315-88-0 688315-89-1 694534-34-4

694534-41-3 694534-43-5 694534-44-6 694534-45-7

694534-46-8 694534-47-9 705941-97-5 705942-24-1

705973-76-8 705973-79-1 705973-80-4 705973-82-6

722547-84-4 722547-85-5 722547-86-6 722547-87-7

722547-88-8 722547-89-9 754231-79-3 754231-80-6

754231-82-8 754231-83-9 754231-84-0 754231-87-3

754231-88-4 754231-89-5 754231-90-8 754231-91-9

754231-92-0 754231-94-2

RL: DEV (Device component use); USES (Uses)

(long-life white-emitting organic LED containing azacyclic phosphorescent dopants and showing high luminescent efficiency)

IT 5660-43-5P 51445-93-3P 115533-27-2P 174291-37-3P

288297-90-5P 344564-96-1P 522630-06-4P 522630-07-5P

557787-52-7P 567625-71-2P 567625-76-7P 567625-77-8P

569674-88-0P 569674-97-1P 643753-84-8P 669072-95-1P

676553-36-9P 705941-83-9P 754231-93-1P 754231-95-3P

754232-01-4P 754980-36-4P

RL: DEV (Device component use); IMF (Industrial manufacture); PREP (Preparation); USES (Uses)

(long-life white-emitting organic LED containing azacyclic phosphorescent dopants and showing high luminescent efficiency)

IT 604-53-5P, 1,1'-Binaphthalene 5122-94-1P 16761-23-2P  
19264-73-4P 33170-68-2P 49610-33-5P 50668-21-8P,  
3-Iodo-9-ethylcarbazole 77547-84-3P 85137-69-5P 103989-84-0P  
121073-89-0P 146232-42-0P 155886-75-2P 155886-83-2P  
263164-82-5P 288297-93-8P 288297-94-9P 288297-95-0P  
357437-74-2P 363607-69-6P 522630-41-7P 522630-42-8P  
567625-82-5P 567625-83-6P 643753-87-1P 643753-91-7P  
754232-02-5P

RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)

(long-life white-emitting organic LED containing azacyclic phosphorescent dopants and showing high luminescent efficiency)

IT 62-53-3, Aniline, reactions 67-64-1, Acetone, reactions  
76-86-8, Triphenylchlorosilane 86-74-8, Carbazole 90-11-9,  
1-Bromonaphthalene 90-90-4, 4-Bromobenzophenone 92-66-0,  
4-Bromobiphenyl 95-54-5, 1,2-Phenylenediamine, reactions  
98-80-6, Phenylboronic acid 99-97-8, N,N-Dimethyl-p-tolylamine  
100-20-9, Terephthaloyl dichloride 106-37-6, 1,4-Dibromobenzene  
106-38-7, 4-Bromotoluene 108-36-1, 1,3-Dibromobenzene  
108-94-1, Cyclohexanone, reactions 108-98-5, Thiophenol,  
reactions 110-13-4, 2,5-Hexanedione 119-61-9, Benzophenone,  
reactions 119-93-7 121-43-7, Trimethoxyborane 132-32-1,  
3-Amino-9-ethylcarbazole 302-01-2, Hydrazine, reactions  
495-71-6, 1,2-Dibenzoylthane 523-27-3, 9,10-Dibromoanthracene  
583-53-9, 1,2-Dibromobenzene 619-42-1, Methyl 4-bromobenzoate  
623-27-8, 1,4-Diformylbenzene 624-92-0, Dimethyl disulfide  
626-19-7, 1,3-Benzenedicarboxaldehyde 762-04-9, Diethyl  
phosphite 826-81-3, 2-Methyl-8-quinolinol 885-39-2 931-50-0,  
Cyclohexylmagnesium bromide 1003-09-4, 2-Bromothiophene  
1074-24-4, 2,5-Dibromo-p-xylene 1592-95-6, 3-BromoCarbazole  
1730-04-7, 1,8-Diiodonaphthalene 1733-63-7 2586-62-1,  
1-Bromo-2-methylnaphthalene 2592-73-6, 1,1-Dibromo-2,2-  
diphenylethylene 4546-04-7 6999-03-7, 1-Bromo-4-  
trimethylsilylbenzene 10489-97-1, 1,1-Dibromocyclohexane  
38218-24-5, Indium isopropoxide 51044-13-4, 4-  
Bromobenzyltriphenylphosphonium bromide 65810-18-6,  
1,3,5-Cycloheptatriene-1-carboxaldehyde 95902-10-6,  
3-Bromobenzyltriphenylphosphonium bromide 643753-90-6  
754232-00-3

RL: RCT (Reactant); RACT (Reactant or reagent)

(long-life white-emitting organic LED containing azacyclic phosphorescent dopants and showing high luminescent efficiency)

L54 ANSWER 12 OF 51 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2004:695455 HCAPLUS

DOCUMENT NUMBER: 141:207074

TITLE: Preparation of spirobi[(R)- or (S)-binaphthyl]dimethylammonium derivatives and their use as phase-transfer catalysts for preparation of optically active  $\alpha$ -amino acids

INVENTOR(S): Maruoka, Keiji

PATENT ASSIGNEE(S): Tosoh Corp., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 49 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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JP 2004238362

A2

20040826

JP 2003-31361

2003  
0207

PRIORITY APPLN. INFO.:

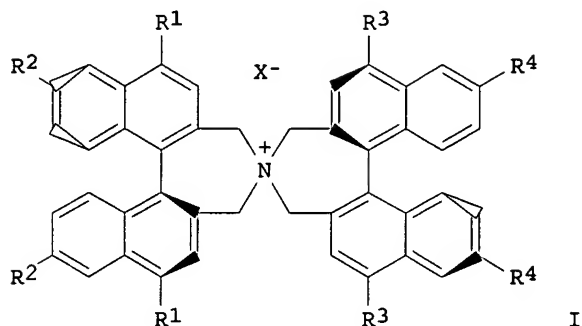
JP 2003-31361

2003  
0207

OTHER SOURCE(S):

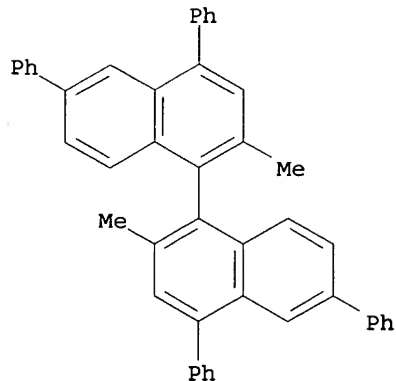
MARPAT 141:207074

GI

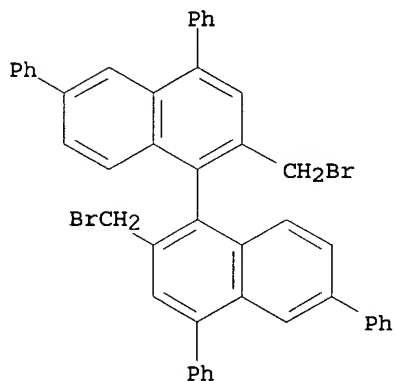


- AB Title compds. I [R1-R4 = H, Me, Et, vinyl, ethynyl, C3-10 linear, branched, cyclic alkyl, C5-20 (halo)aryl, etc.; R1-R4 ≠ H; X = halo, thiocyanide, HSO<sub>4</sub>, ClO<sub>4</sub>, PF<sub>6</sub>] are prepared Their intermediates are also claimed. Thus, quaternization of (S)-1,1'-bi-2-bromomethyl-4-phenylnaphthyl with ammonia in a sealed tube gave 42% (S,S)-I (R1 = R3 = Ph, R2 = R4 = H, X = Br). Ph<sub>2</sub>C:NCH<sub>2</sub>CO<sub>2</sub>CMe<sub>3</sub> was alkylated with PhCH<sub>2</sub>Br in PhMe in the presence of the ammonium salt and aqueous KOH at 0° for 6 h to give 86% (R)-Ph<sub>2</sub>C:NCH(CH<sub>2</sub>Ph)CO<sub>2</sub>CMe<sub>3</sub> with 96% ee.
- IT 583050-13-9P 583050-14-0P 583050-16-2P  
583050-17-3P 583050-20-8P 583050-21-9P  
596107-96-9P 596107-97-0P 596107-98-1P  
727713-01-1P 743422-07-3P 743422-10-8P  
743422-21-1P 743422-23-3P  
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)  
(preparation of optically active spirobi[binaphthyl]dimethylammonium derivs. as phase-transfer catalysts for preparation of optically active amino acids)
- RN 583050-13-9 HCAPLUS
- CN 1,1'-Binaphthalene, 2,2'-dimethyl-4,4',6,6'-tetraphenyl-, (1S)- (9CI) (CA INDEX NAME)

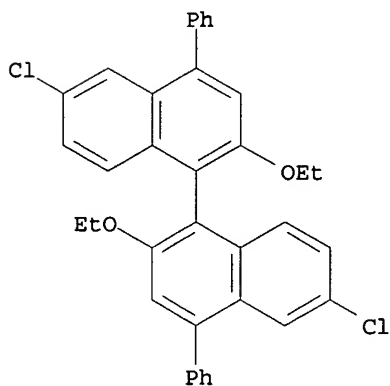




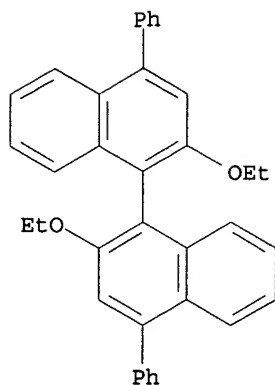
RN 583050-14-0 HCAPLUS  
 CN 1,1'-Binaphthalene, 2,2'-bis(bromomethyl)-4,4',6,6'-tetraphenyl-,  
 (1S)-(9CI) (CA INDEX NAME)



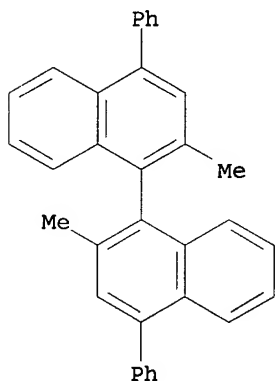
RN 583050-16-2 HCAPLUS  
 CN 1,1'-Binaphthalene, 6,6'-dichloro-2,2'-diethoxy-4,4'-diphenyl-,  
 (1S)-(9CI) (CA INDEX NAME)



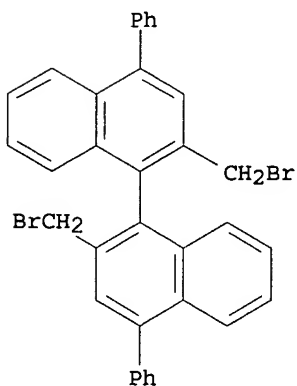
RN 583050-17-3 HCAPLUS  
 CN 1,1'-Binaphthalene, 2,2'-diethoxy-4,4'-diphenyl-, (1S)-(9CI) (CA  
 INDEX NAME)



RN 583050-20-8 HCAPLUS  
 CN 1,1'-Binaphthalene, 2,2'-dimethyl-4,4'-diphenyl-, (1S)- (9CI) (CA INDEX NAME)

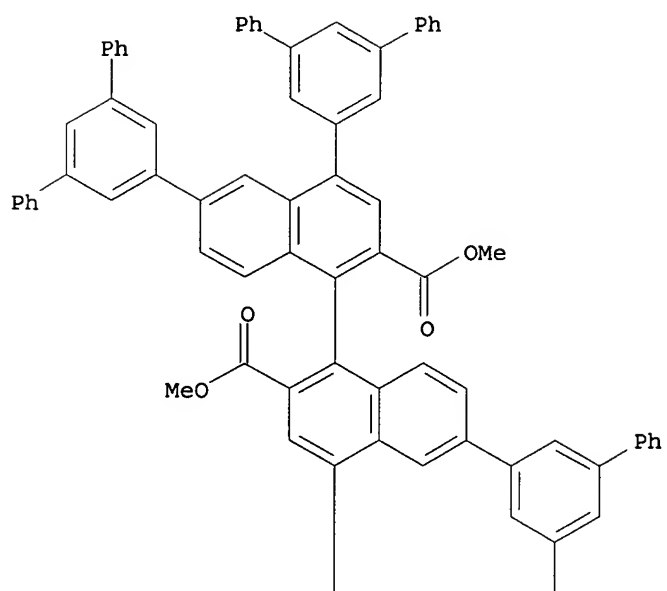


RN 583050-21-9 HCAPLUS  
 CN 1,1'-Binaphthalene, 2,2'-bis(bromomethyl)-4,4'-diphenyl-, (1S)- (9CI) (CA INDEX NAME)

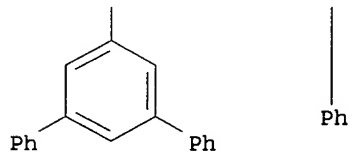


RN 596107-96-9 HCAPLUS  
 CN [1,1'-Binaphthalene]-2,2'-dicarboxylic acid, 4,4',6,6'-tetrakis([1,1':3',1''-terphenyl]-5'-yl)-, dimethyl ester, (1S)- (9CI) (CA INDEX NAME)

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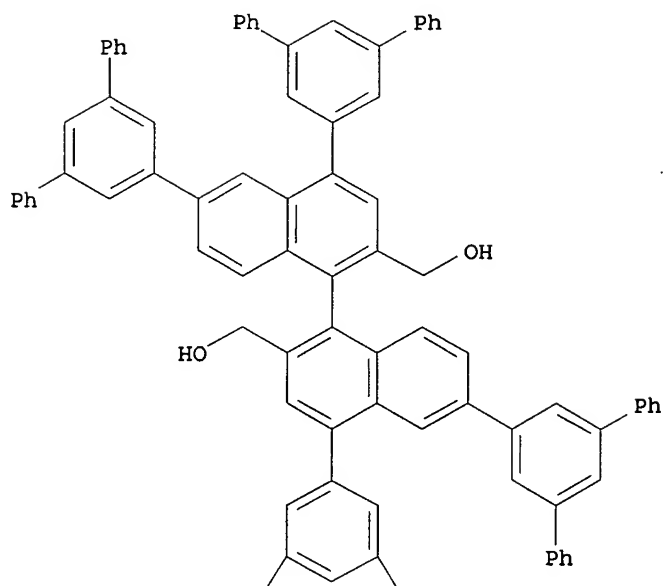


PAGE 2-A



RN 596107-97-0 HCAPLUS  
CN [1,1'-Binaphthalene]-2,2'-dimethanol, 4,4',6,6'-  
tetrakis([1,1':3',1''-terphenyl]-5'-yl)-, (1S)- (9CI) (CA INDEX  
NAME)

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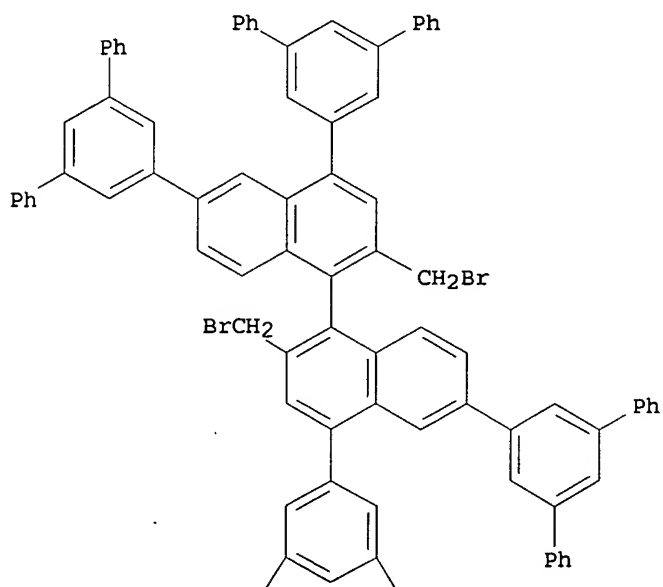


PAGE 2-A



RN 596107-98-1 HCAPLUS  
 CN 1,1'-Binaphthalene, 2,2'-bis(bromomethyl)-4,4',6,6'-  
 tetrakis([1,1':3',1''-terphenyl]-5'-yl)-, (1S)-(9CI) (CA INDEX  
 NAME)

PAGE 1-A

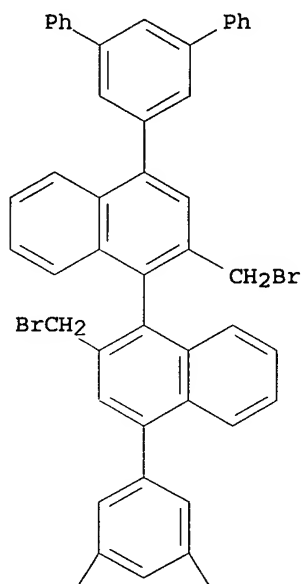


PAGE 2-A



RN 727713-01-1 HCAPLUS  
 CN 1,1'-Binaphthalene, 2,2'-bis(bromomethyl)-4,4'-bis([1,1':3',1''-terphenyl]-5'-yl)-, (1S)- (9CI) (CA INDEX NAME)

PAGE 1-A

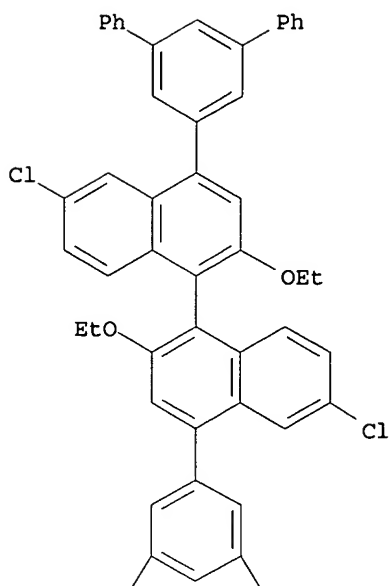


PAGE 2-A



RN 743422-07-3 HCAPLUS  
 CN 1,1'-Binaphthalene, 6,6'-dichloro-2,2'-diethoxy-4,4'-bis([1,1':3',1''-terphenyl]-5'-yl)-, (1S)- (9CI) (CA INDEX NAME)

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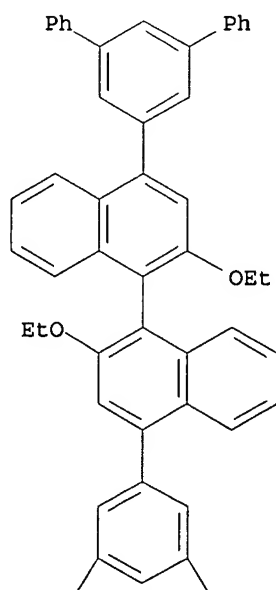


PAGE 2-A



RN 743422-10-8 HCAPLUS  
 CN 1,1'-Binaphthalene, 2,2'-diethoxy-4,4'-bis([1,1':3',1''-terphenyl]-5'-yl)-, (1S)- (9CI) (CA INDEX NAME)

PAGE 1-A

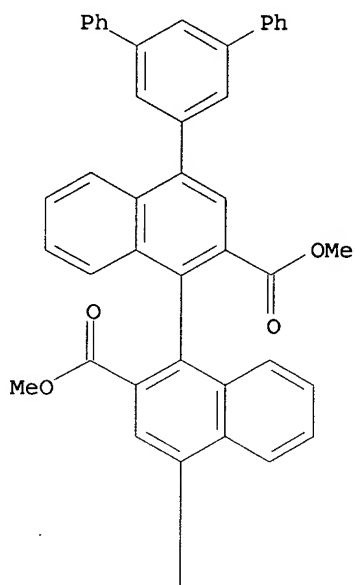


PAGE 2-A

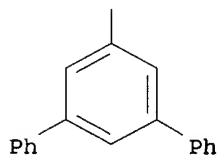


RN 743422-21-1 HCAPLUS  
 CN [1,1'-Binaphthalene]-2,2'-dicarboxylic acid, 4,4'-bis([1,1':3',1''-terphenyl]-5'-yl)-, dimethyl ester, (1S)- (9CI) (CA INDEX NAME)

PAGE 1-A

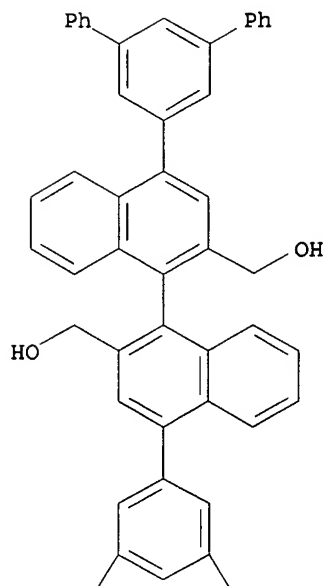


PAGE 2-A



RN 743422-23-3 HCAPLUS  
 CN [1,1'-Binaphthalene]-2,2'-dimethanol, 4,4'-bis([1,1':3',1''-terphenyl]-5'-yl)-, (1S)- (9CI) (CA INDEX NAME)

PAGE 1-A



PAGE 2-A



IC ICM C07D487-10  
 ICS C07B053-00; C07C015-58; C07C022-04; C07C033-34; C07C039-225;  
 C07C041-30; C07C043-225; C07C067-36; C07C069-76; C07C249-02;  
 C07C251-24; C07C309-65; C07M007-00  
 CC 27-20 (Heterocyclic Compounds (One Hetero Atom))  
 Section cross-reference(s): 34  
 IT 583050-12-8P 583050-13-9P 583050-14-0P  
 583050-16-2P 583050-17-3P 583050-18-4P  
 583050-19-5P 583050-20-8P 583050-21-9P  
 596107-95-8P 596107-96-9P 596107-97-0P  
 596107-98-1P 727713-01-1P 743422-07-3P  
 743422-10-8P 743422-12-0P 743422-15-3P  
 743422-21-1P 743422-23-3P  
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP  
 (Preparation); RACT (Reactant or reagent)  
 (preparation of optically active spirobi[binaphthyldimethylammonium]  
 derivs. as phase-transfer catalysts for preparation of optically  
 active amino acids)

L54 ANSWER 13 OF 51 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2004:633116 HCAPLUS

DOCUMENT NUMBER: 141:181650

TITLE: Binaphthol based chromophores for the  
 fabrication of blue organic light  
 emitting diodes

INVENTOR(S): Bazan, Guillermo C.; Benmansour, Hadjar; Sato,  
 Yoshiharu; Shioya, Takeshi

PATENT ASSIGNEE(S): USA

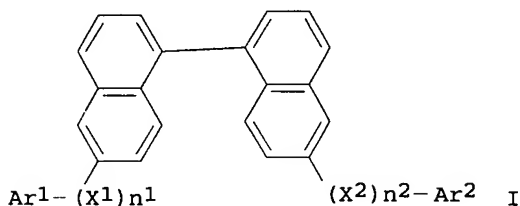
SOURCE: U.S. Pat. Appl. Publ., 23 pp., Cont.-in-part  
 of U.S. Pat. Appl. 2004 142,206.  
 CODEN: USXXCO



DOCUMENT TYPE: Patent  
 LANGUAGE: English  
 FAMILY ACC. NUM. COUNT: 2  
 PATENT INFORMATION:

PATENT NO. -----	KIND ----	DATE -----	APPLICATION NO. -----	DATE
US 2004151945	A1	20040805	US 2004-759505	2004 0116
US 2004142206	A1	20040722	US 2003-346667	2003 0117
PRIORITY APPLN. INFO.:			US 2003-346667	A2 2003 0117

OTHER SOURCE(S): MARPAT 141:181650  
 GI

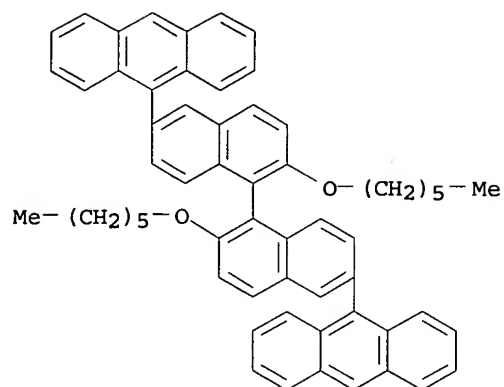


AB Binaphthol derivs. are described by the general formula I (Ar1 and Ar2 = independently selected (un)substituted aromatic hydrocarbon or (un)substituted aromatic heterocycle; each X1 and X2 = independently selected (un)substituted aromatic hydrocarbon; each n1 and n2 = independently 0 or 1; and the compound's binaphthyl framework can be independently substituted at any position except those occupied by (X1)<sub>n1</sub>Ar1 and (X2)<sub>n2</sub>Ar2). Fluorescent dyes are described which comprise the derivs. Organic **light-emitting** devices comprising an **anode**, a **cathode** and an emissive layer between the **anode** and **cathode** are also described which are provided with a layer comprising I.

IT 688810-46-0P 724794-01-8P  
 RL: DEV (Device component use); MOA (Modifier or additive use);  
 SPN (Synthetic preparation); PREP (Preparation); USES (Uses)  
 (binaphthol-based chromophores and organic **light-emitting** diodes using them)

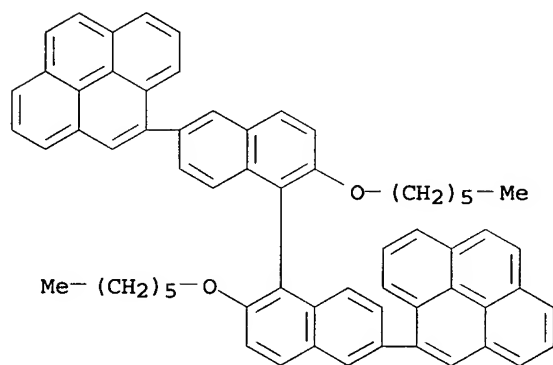
RN 688810-46-0 HCAPLUS

CN Anthracene, 9,9'-[2,2'-bis(hexyloxy)[1,1'-binaphthalene]-6,6'-diyl]bis- (9CI) (CA INDEX NAME)



RN 724794-01-8 HCAPLUS

CN Pyrene, 4,4'-[2,2'-bis(hexyloxy)[1,1'-binaphthalene]-6,6'-diyl]bis-  
(9CI) (CA INDEX NAME)

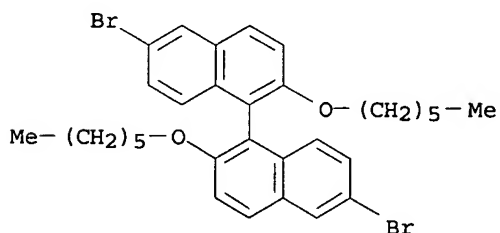


IT 191787-87-8

RL: RCT (Reactant); RACT (Reactant or reagent)  
(binaphthol-based chromophores and organic light-emitting diodes using them)

RN 191787-87-8 HCAPLUS

CN 1,1'-Binaphthalene, 6,6'-dibromo-2,2'-bis(hexyloxy)- (9CI) (CA INDEX NAME)

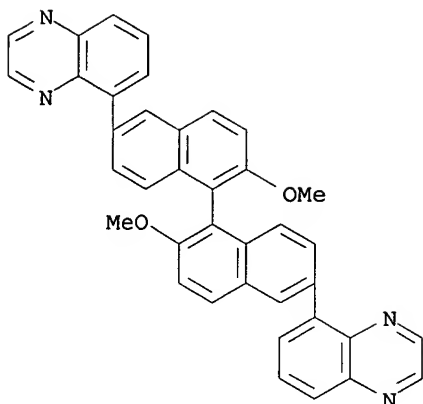


IT 732292-72-7

RL: DEV (Device component use); USES (Uses)  
(hole-blocking layer; binaphthol-based chromophores and organic light-emitting diodes using them)

RN 732292-72-7 HCAPLUS

CN Quinoxaline, 5,5'-(2,2'-dimethoxy[1,1'-binaphthalene]-6,6'-diyl)bis- (9CI) (CA INDEX NAME)



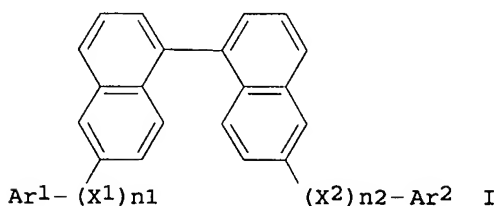
IC ICM B32B009-00  
 INCL 428690000  
 CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)  
 Section cross-reference(s): 25, 41, 76  
 ST binaphthol deriv chromophore org light emitting device; fluorescent dye binaphthol deriv  
 IT Fluorescent dyes  
     (binaphthol-based chromophores and organic light-emitting diodes using them)  
 IT Electroluminescent devices  
     (blue-emitting; binaphthol-based chromophores and organic light-emitting diodes using them)  
 IT Phosphorescent substances  
     (dye dopant; binaphthol-based chromophores and organic light-emitting diodes using them)  
 IT Electroluminescent devices  
     (organic; binaphthol-based chromophores and organic light-emitting diodes using them)  
 IT 58328-31-7, CBP 123847-85-8,  $\alpha$ -NPD 182507-83-1  
     RL: DEV (Device component use); USES (Uses)  
     (binaphthol-based chromophores and organic light-emitting diodes using them)  
 IT 688810-46-0P 724794-01-8P  
     RL: DEV (Device component use); MOA (Modifier or additive use); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)  
     (binaphthol-based chromophores and organic light-emitting diodes using them)  
 IT 100622-34-2, 9-Anthracene boronic acid 191787-87-8  
     496839-55-5  
     RL: RCT (Reactant); RACT (Reactant or reagent)  
     (binaphthol-based chromophores and organic light-emitting diodes using them)  
 IT 732292-72-7  
     RL: DEV (Device component use); USES (Uses)  
     (hole-blocking layer; binaphthol-based chromophores and organic light-emitting diodes using them)  
 IT 94928-86-6, fac-Tris(2-phenylpyridine) iridium  
     RL: DEV (Device component use); MOA (Modifier or additive use); USES (Uses)  
     (phosphorescent dye dopant; binaphthol-based chromophores and organic light-emitting diodes using them)

L54 ANSWER 14 OF 51 HCAPLUS COPYRIGHT 2006 ACS on STN  
 ACCESSION NUMBER: 2004:589086 HCAPLUS  
 DOCUMENT NUMBER: 141:147847

TITLE: Binaphthol-based chromophores for the fabrication of blue organic light-emitting diodes  
 INVENTOR(S): Bazan, Guillermo C.; Benmansour, Hadjar  
 PATENT ASSIGNEE(S): USA  
 SOURCE: U.S. Pat. Appl. Publ., 22 pp.  
 CODEN: USXXCO  
 DOCUMENT TYPE: Patent  
 LANGUAGE: English  
 FAMILY ACC. NUM. COUNT: 2  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2004142206	A1	20040722	US 2003-346667	2003 0117
US 2004151945	A1	20040805	US 2004-759505	2004 0116
WO 2004067675	A2	20040812	WO 2004-US1101	2004 0116
WO 2004067675	A3	20041111		
W: AE, AE, AG, AL, AL, AM, AM, AM, AT, AT, AU, AZ, AZ, BA, BB, BG, BG, BR, BR, BW, BY, BY, BZ, BZ, CA, CH, CN, CN, CO, CO, CR, CR, CU, CU, CZ, CZ, DE, DE, DK, DK, DM, DZ, EC, EC, EE, EE, EG, ES, ES, FI, FI, GB, GD, GE, GE, GH, GM, HR, HR, HU, HU, ID, IL, IN, IS, JP, JP, KE, KE, KG, KG, KP, KP, KP, KR, KR, KZ, KZ, LC, LK, LR, LS, LS, LT, LU, LV, MA, MD, MD, MG, MK, MN, MW, MX, MX, MZ, MZ, NA, NI				
PRIORITY APPLN. INFO.:			US 2003-346667	A2 2003 0117

OTHER SOURCE(S): MARPAT 141:147847  
 GI



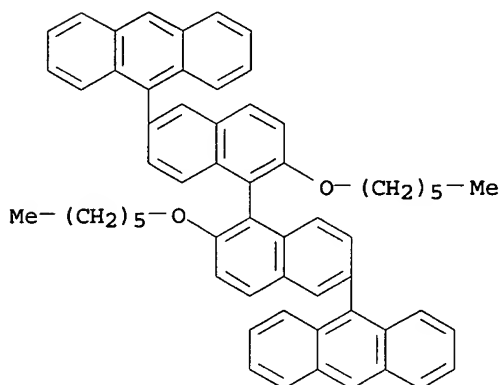
AB Binaphthol derivs. are described by the general formula I (Ar1 and Ar2 = independently selected (un)substituted aromatic hydrocarbon or (un)substituted aromatic heterocycle; each X1 and X2 = independently selected (un)substituted aromatic hydrocarbon; each n1 and n2 = independently 0 or 1; and the compound's binaphthyl framework can be independently substituted at any position except those occupied by (X1)<sub>n1</sub>Ar1 and (X2)<sub>n2</sub>Ar2). Fluorescent dyes are described which comprise the derivs. Organic light-emitting devices comprising an anode, a cathode and an emissive layer between the anode and cathode are also described which are provided with a layer comprising I.

IT 688810-46-0P 724794-01-8P  
 RL: DEV (Device component use); MOA (Modifier or additive use); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)

(binaphthol-based chromophores and organic light-emitting diodes using them)

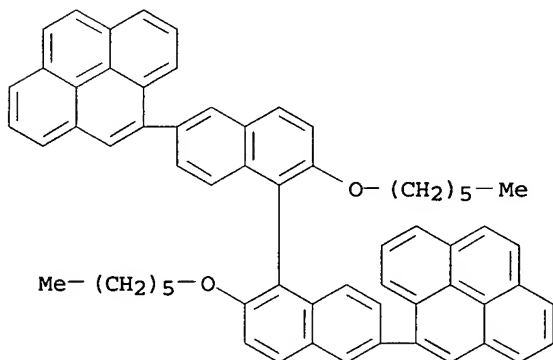
RN 688810-46-0 HCAPLUS

CN Anthracene, 9,9'-[2,2'-bis(hexyloxy) [1,1'-binaphthalene]-6,6'-diyl]bis- (9CI) (CA INDEX NAME)



RN 724794-01-8 HCAPLUS

CN Pyrene, 4,4'-[2,2'-bis(hexyloxy) [1,1'-binaphthalene]-6,6'-diyl]bis- (9CI) (CA INDEX NAME)

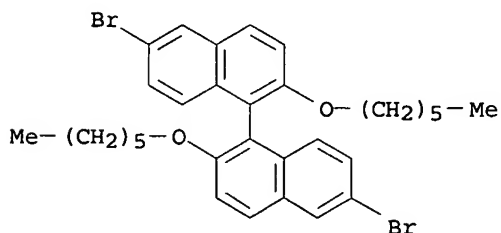


IT 191787-87-8

RL: RCT (Reactant); RACT (Reactant or reagent)  
(binaphthol-based chromophores and organic light-emitting diodes using them)

RN 191787-87-8 HCAPLUS

CN 1,1'-Binaphthalene, 6,6'-dibromo-2,2'-bis(hexyloxy)- (9CI) (CA INDEX NAME)



IC ICM H05B033-14

INCL 428690000; 428917000; 313504000  
CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)  
Section cross-reference(s): 25, 41, 76  
ST binaphthol deriv chromophore org light emitting device; fluorescent dye binaphthol deriv  
IT Fluorescent dyes  
(binaphthol-based chromophores and organic light-emitting diodes using them)  
IT Electroluminescent devices  
(organic; binaphthol-based chromophores and organic light-emitting diodes using them)  
IT 58328-31-7, CBP  
RL: DEV (Device component use); USES (Uses)  
(binaphthol-based chromophores and organic light-emitting diodes using them)  
IT 688810-46-0P 724794-01-8P  
RL: DEV (Device component use); MOA (Modifier or additive use);  
SPN (Synthetic preparation); PREP (Preparation); USES (Uses)  
(binaphthol-based chromophores and organic light-emitting diodes using them)  
IT 100622-34-2, 9-Anthracene boronic acid 191787-87-8  
496839-55-5  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(binaphthol-based chromophores and organic light-emitting diodes using them)

L54 ANSWER 15 OF 51 HCAPLUS COPYRIGHT 2006 ACS on STN  
ACCESSION NUMBER: 2004:468734 HCAPLUS  
DOCUMENT NUMBER: 141:181568  
TITLE: Organic polarized light-emitting diodes via Foerster energy transfer using monodisperse conjugated oligomers  
AUTHOR(S): Chen, Andrew C. A.; Culligan, Sean W.; Geng, Yanhou; Chen, Shaw H.; Klubek, Kevin P.; Vaeth, Kathleen M.; Tang, Ching W.  
CORPORATE SOURCE: Department of Chemical Engineering and Laboratory for Laser Energetics, Center for Optoelectronics and Imaging, University of Rochester, Rochester, NY, 14623-1212, USA  
SOURCE: Advanced Materials (Weinheim, Germany) (2004), 16(9-10), 783-788  
CODEN: ADVMEW; ISSN: 0935-9648  
PUBLISHER: Wiley-VCH Verlag GmbH & Co. KGaA  
DOCUMENT TYPE: Journal  
LANGUAGE: English

AB Polarized OLEDs were constructed using fluorene derivative lightly doped with monodisperse conjugated oligomers for an efficient emission of green, red, and white light. This is the first demonstration of polarized OLEDs which operate by way of the intermol. Forster energy transfer as a novel approach to efficient and highly polarized full color and white light OLEDs with a polarization ratio of up to 25, a luminance yield of up to 6.4 cd A-1, a turn-on voltage of < 4 V, and a voltage-independent chromaticity.

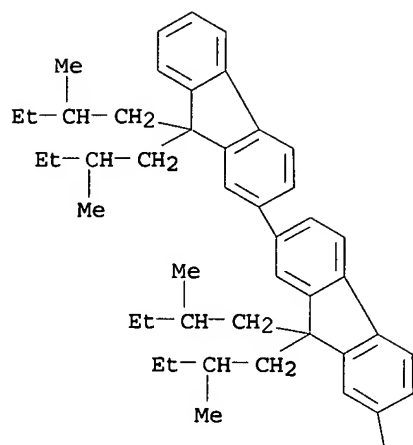
IT 733805-02-2  
RL: DEV (Device component use); MOA (Modifier or additive use);  
PEP (Physical, engineering or chemical process); PRP (Properties);  
PYP (Physical process); PROC (Process); USES (Uses)  
(organic polarized light-emitting diodes via Foerster energy transfer based on fluorene derivative lightly doped with monodisperse conjugated oligomers)

RN 733805-02-2 HCAPLUS  
CN 2,2':7',2''-Ter-9H-fluorene, 7,7'''-[1,1'-binaphthalene]-4,4'-diylbis[9,9,9',9'',9'''-hexakis(2-methylbutyl)- (9CI) (CA INDEX

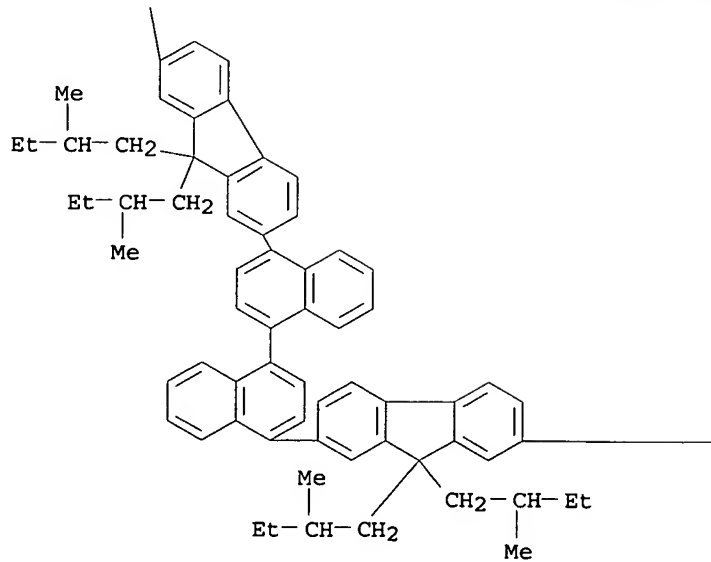
(May 2004)

NAME)

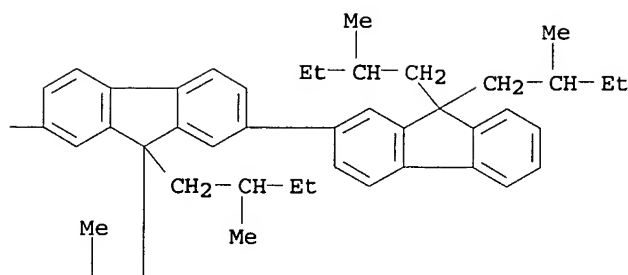
PAGE 1-A



PAGE 2-A



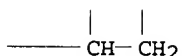
PAGE 2-B



PAGE 3-A

Et—

PAGE 3-B



- CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)  
Section cross-reference(s): 35, 75, 76
- ST polarized **electroluminescent** device energy transfer  
monodisperse conjugated oligomer dopant; **OLED** polarized  
fluorene doping oligomer **electroluminescence** Forster  
energy transfer
- IT Doping  
(effect of doping concentration; organic polarized **light-emitting** diodes via Foerster energy transfer based on  
fluorene derivative lightly doped with monodisperse conjugated  
oligomers)
- IT Oligomers  
RL: DEV (Device component use); PRP (Properties); USES (Uses)  
(monodisperse conjugated; organic polarized **light-emitting** diodes via Foerster energy transfer based on  
fluorene derivative lightly doped with monodisperse conjugated  
oligomers)
- IT Liquid crystals  
(nematic; organic polarized **light-emitting** diodes via Foerster energy transfer based on fluorene derivative  
lightly doped with monodisperse conjugated oligomers)
- IT Fluorescence  
Refractive index  
(of fluorene derivative for use in organic polarized **light-**



emitting diodes)  
IT **Electroluminescent devices**  
Energy transfer  
(organic polarized light-emitting diodes via  
Foerster energy transfer using monodisperse conjugated  
oligomers)  
IT **Luminescence, electroluminescence**  
(polarized; organic polarized light-  
emitting diodes via Foerster energy transfer using  
monodisperse conjugated oligomers)  
IT 630425-86-4 733805-01-1 **733805-02-2** 733805-03-3  
RL: DEV (Device component use); MOA (Modifier or additive use);  
PEP (Physical, engineering or chemical process); PRP (Properties);  
PYP (Physical process); PROC (Process); USES (Uses)  
(organic polarized light-emitting diodes via  
Foerster energy transfer based on fluorene derivative lightly doped  
with monodisperse conjugated oligomers)  
IT 491880-92-3  
RL: DEV (Device component use); PEP (Physical, engineering or  
chemical process); PRP (Properties); PYP (Physical process); PROC  
(Process); USES (Uses)  
(organic polarized light-emitting diodes via  
Foerster energy transfer based on fluorene derivative lightly doped  
with monodisperse conjugated oligomers)  
REFERENCE COUNT: 84 THERE ARE 84 CITED REFERENCES AVAILABLE  
FOR THIS RECORD. ALL CITATIONS AVAILABLE  
IN THE RE FORMAT

L54 ANSWER 16 OF 51 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2004:451121 HCAPLUS

DOCUMENT NUMBER: 141:14264

TITLE: Organic electroluminescent devices  
with good heat resistance, long service life,  
and high luminance at low drive voltage

INVENTOR(S): Soma, Minoru; Iida, Koichiro; Ogata, Tomoyuki;  
Sato, Yoshiharu

PATENT ASSIGNEE(S): Mitsubishi Chemical Corp., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 47 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
-----	----	-----	-----	
JP 2004158216	A2	20040603	JP 2002-320194	2002 1101
				2002 1101

PRIORITY APPLN. INFO.: JP 2002-320194

OTHER SOURCE(S): MARPAT 141:14264

AB The devices have, between emitting layers and anodes,  
wet-formed layers containing hole-transporting substances (e.g., aromatic  
amines, phthalocyanines, porphyrins) of mol. weight <2000 and  
electron acceptors represented by Ar1Ar2Ar3B (Ar1-Ar3 = aromatic  
hydrocarbyl, aromatic heterocycle).

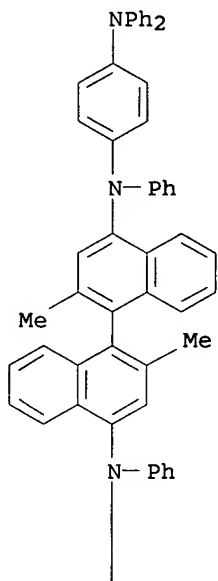
IT **640772-70-9**

RL: DEV (Device component use); PEP (Physical, engineering or  
chemical process); PYP (Physical process); PROC (Process); USES  
(Uses)

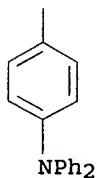
(hole-injecting layers; long-life organic LED containing  
low-mol.-weight aromatic amines and arylboranes in hole-injecting

layers)  
 RN 640772-70-9 HCAPLUS  
 CN [1,1'-Binaphthalene]-4,4'-diamine, N,N'-bis[4-(diphenylamino)phenyl]-2,2'-dimethyl-N,N'-diphenyl- (9CI) (CA INDEX NAME)

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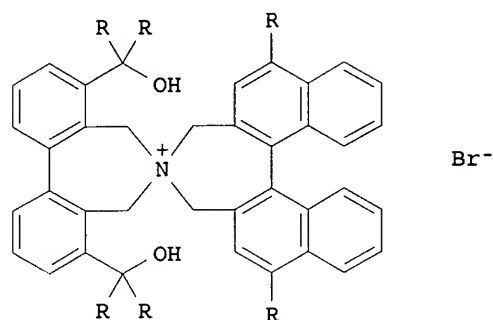
PAGE 2-A



IC ICM H05B033-22  
 ICS C09K011-06; H05B033-14  
 CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)  
 ST **electroluminescent** device arylborane electron acceptor heat resistance; perfluorotriphenylborane binaphthylamine hole injecting layer LED  
 IT **Electroluminescent** devices  
 (org; long-life organic **LED** containing low-mol.-weight aromatic amines and arylboranes in hole-injecting layers)  
 IT 1109-15-5 640772-70-9  
 RL: DEV (Device component use); PEP (Physical, engineering or chemical process); PYP (Physical process); PROC (Process); USES (Uses)  
 (hole-injecting layers; long-life organic **LED** containing low-mol.-weight aromatic amines and arylboranes in hole-injecting layers)

L54 ANSWER 17 OF 51 HCAPLUS COPYRIGHT 2006 ACS on STN  
 ACCESSION NUMBER: 2004:400619 HCAPLUS

DOCUMENT NUMBER: 141:140245  
 TITLE: Design of New Chiral Phase-Transfer Catalysts with Dual Functions for Highly Enantioselective Epoxidation of  $\alpha,\beta$ -Unsaturated Ketones  
 AUTHOR(S): Ooi, Takashi; Ohara, Daisuke; Tamura, Masazumi; Maruoka, Keiji  
 CORPORATE SOURCE: Department of Chemistry, Graduate School of Science, Kyoto University, Kyoto, 606-8502, Japan  
 SOURCE: Journal of the American Chemical Society (2004), 126(22), 6844-6845  
 CODEN: JACSAT; ISSN: 0002-7863  
 PUBLISHER: American Chemical Society  
 DOCUMENT TYPE: Journal  
 LANGUAGE: English  
 OTHER SOURCE(S): CASREACT 141:140245  
 GI



AB A new chiral ammonium bromide I (R = 3,5-Ph<sub>2</sub>C<sub>6</sub>H<sub>3</sub>), possessing diarylmethanol functionality as a substrate recognition site, has been designed as a promising, dual-functioning catalyst for the highly enantioselective epoxidn. of  $\alpha,\beta$ -unsatd. ketones under mild phase-transfer conditions. For instance, vigorous stirring of a mixture of chalcone, I (3 mol %), and 13% NaOCl in toluene at 0° for 24 h gave epoxy chalcone quant. with 96% ee. A variety of  $\alpha,\beta$ -unsatd. ketones can also be epoxidized with rigorous stereochem. control, clearly demonstrating the effectiveness and utility of the present system. Further, a successful single-crystal X-ray diffraction anal. of hexafluorophosphate analog of I uncovered its distinctive three-dimensional mol. architecture and provided useful information for postulating the transition state.

IT 727713-01-1P

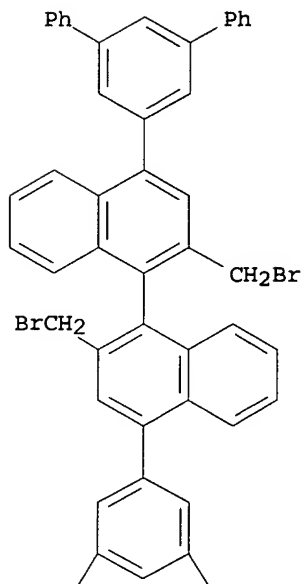
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)

(preparation of chiral quaternary ammonium bromides as phase-transfer catalysts for asym. epoxidn. of  $\alpha,\beta$ -unsatd. ketones)

RN 727713-01-1 HCAPLUS

CN 1,1'-Binaphthalene, 2,2'-bis(bromomethyl)-4,4'-bis([1,1':3',1''-terphenyl]-5'-yl)-, (1S)- (9CI) (CA INDEX NAME)

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CC 27-2 (Heterocyclic Compounds (One Hetero Atom))

Section cross-reference(s): 75

IT 727713-01-1P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP

(Preparation); RACT (Reactant or reagent)

(preparation of chiral quaternary ammonium bromides as  
phase-transfer catalysts for asym. epoxidn. of  
 $\alpha,\beta$ -unsatd. ketones)

REFERENCE COUNT:

21

THERE ARE 21 CITED REFERENCES AVAILABLE  
FOR THIS RECORD. ALL CITATIONS AVAILABLE  
IN THE RE FORMAT

L54 ANSWER 18 OF 51 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2004:347672 HCAPLUS

DOCUMENT NUMBER: 141:123459

TITLE: Configurationally defined sexi- and  
octinaphthalene derivatives: synthesis and  
optical propertiesAUTHOR(S): Furuta, Takumi; Tanaka, Kiyoshi; Tsubaki,  
Kazunori; Fujii, KaoruCORPORATE SOURCE: School of Pharmaceutical Sciences, University  
of Shizuoka, Shizuoka, 422-8526, Japan

SOURCE: Tetrahedron (2004), 60(20), 4431-4441

CODEN: TETRAB; ISSN: 0040-4020

PUBLISHER: Elsevier Science B.V.

DOCUMENT TYPE: Journal

LANGUAGE: English

OTHER SOURCE(S): CASREACT 141:123459

AB The copper mediated oxidative coupling of optically active  
quaternaphthalenes having a 2-hydroxynaphthyl moiety gave  
configurationally defined optically active octinaphthalenes. The

absolute configuration was determined by comparison with products of [6+2] coupling. The CD spectra of bi-, ter-, quater-, sexi- and octinaphthalenes suggested that the absolute configuration of the chiral axis could be deduced from the intensity of their Cotton effects.

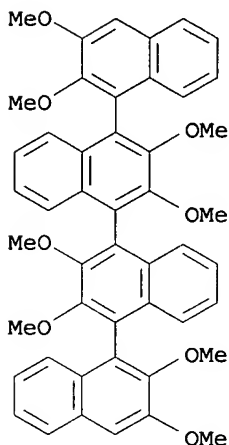
IT 183015-40-9 183182-75-4

RL: PRP (Properties)

(preparation and optical properties of configurationally defined sexi- and octinaphthalenes)

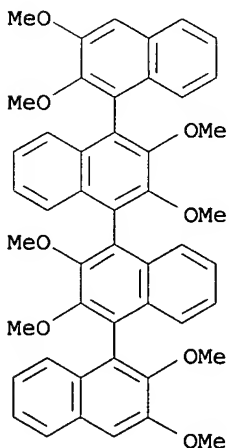
RN 183015-40-9 HCAPLUS

CN 1,1':4',1'':4'',1''':4'''-Quaternaphthalene,  
2,2',2'',2''',3,3',3'',3'''-octamethoxy-, stereoisomer (9CI) (CA  
INDEX NAME)



RN 183182-75-4 HCAPLUS

CN 1,1':4',1'':4'',1''':4'''-Quaternaphthalene,  
2,2',2'',2''',3,3',3'',3'''-octamethoxy-, stereoisomer (9CI) (CA  
INDEX NAME)



IT 328235-19-4P 328235-27-4P 328379-65-3P

328379-71-1P

RL: PRP (Properties); SPN (Synthetic preparation); PREP  
(Preparation)

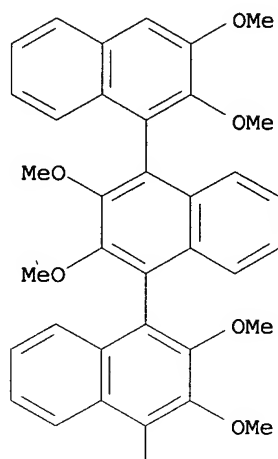
(preparation and optical properties of configurationally defined

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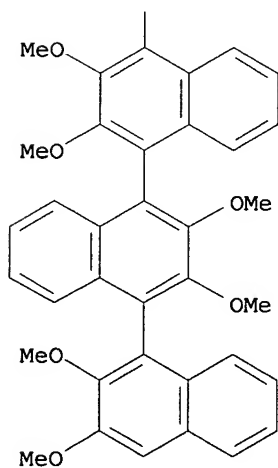
sexi- and octinaphthalenes)
RN 328235-19-4 HCAPLUS
CN 1,1':4',1'':4'',1''':4''',1''':4''',1''':4'''-Sexinaphthalene,
2,2',2'',2''',2''':2''',3,3',3'',3''',3''':3'''-
dodecamethoxy-, (1S,1''S,1''':S,1''':S,1''':S)- (9CI) (CA INDEX
NAME)

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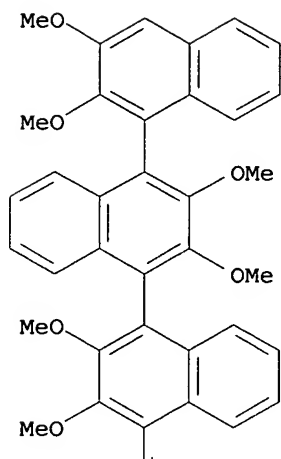


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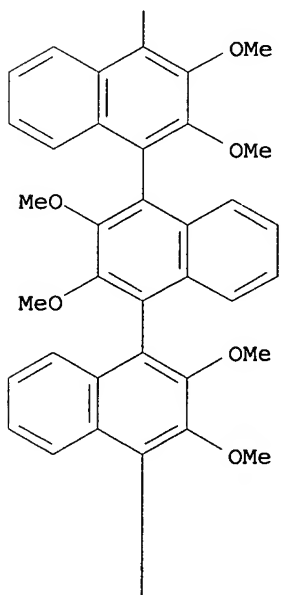


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RN      328235-27-4   HCAPLUS
CN      1,1':4',1'':4'',1''':4''' ,1''':4'''' ,1''':4'''' ,1''':4'''' ,1''':4''''
        ',1''':4'''' -Octinaphthalene, 2,2',2'',2''',2'''' ,2'''' ,2'''' ,2''''
        ',3,3',3'',3''',3'''' ,3'''' ,3'''' ,3'''' -hexadecamethoxy-
        '(1S,1'S,1'':S,1'':S,1'':S,1'':S,1'':S)- (9CI)  (CA
INDEX NAME)
```

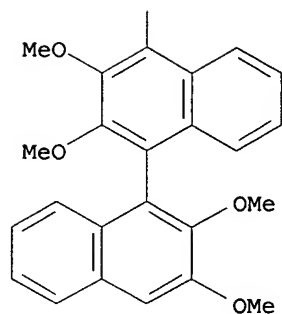
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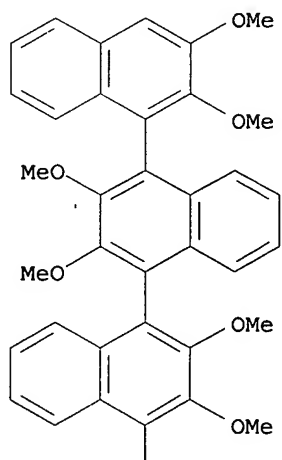


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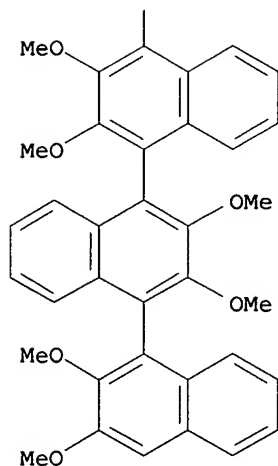
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RN      328379-65-3   HCAPLUS
CN      1,1':4'',1'':4''',1'''':4''''',1''''':4''''',1''''''-Sexinaphthalene,
        2,2',2'',2''',2''''',2''''':3,3',3'',3''',3''''',3''''''-
        dodecamethoxy-, (1S,1''S,1'''R,1''''S,1''''''S)- (9CI)  (CA INDEX
NAME)
```

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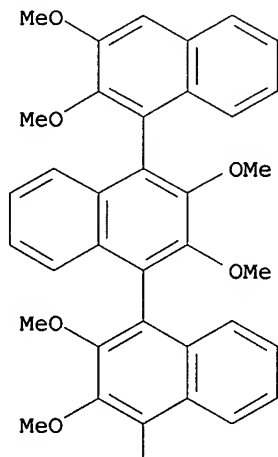




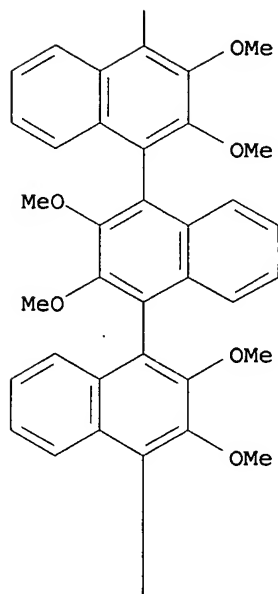
PAGE 2-A

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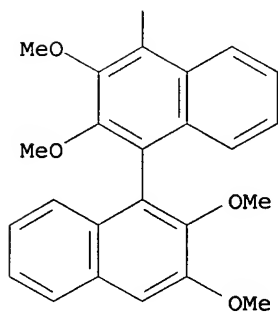
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IT	328235-16-1P	328235-17-2P	328235-18-3P
	328235-20-7P	328235-21-8P	328235-23-0P
	328235-24-1P	328235-25-2P	328235-26-3P
	328235-28-5P	328235-29-6P	328379-62-0P
	328379-63-1P	328379-64-2P	328379-66-4P
	328379-68-6P	328379-69-7P	328379-70-0P
	328379-72-2P		

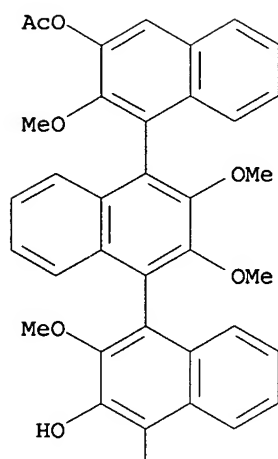
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)

(preparation and optical properties of configurationally defined  
sexi- and octinaphthalenes)

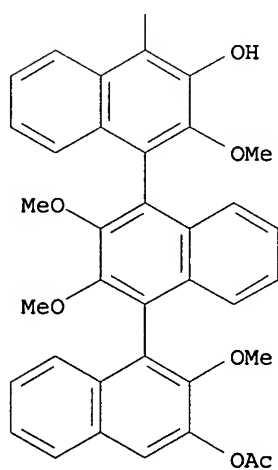
RN 328235-16-1 HCAPLUS

CN [1,1':4'',1'':4'',1''':4''',1''':4''',1''':-Sexinaphthalene]-  
2'',3,3'',3''''-tetrol, 2,2',2'',2''',2''',3',3'',3'''-  
octamethoxy-, 3,3''''-diacetate, (1S,1'S,1''S,1'''S)-  
(9CI) (CA INDEX NAME)

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RN      328235-17-2  HCAPLUS
CN      [1,1'':4'',1'':4'',1'':4'',1'':4'',1'':4''-Sexinaphthalene]-
        3,3'':diol, 2,2'',2'',2'',2'',2'',3'',3'',3'',3''-
        decamethoxy-, diacetate, (1S,1'S,1'':S,1'':S,1'':S)- (9CI)
        (CA INDEX NAME)

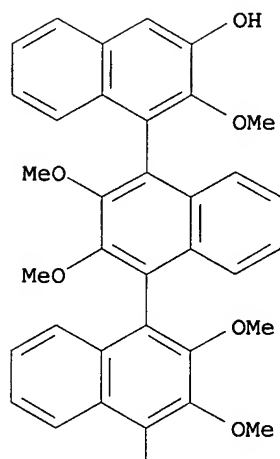
```

Chemical structure of compound 10: A central biphenyl core with a 2-acetoxy-6-methoxyphenyl group at position 1 and a 2,6-dimethoxyphenyl group at position 4. The central biphenyl ring has a methoxy group at position 4.

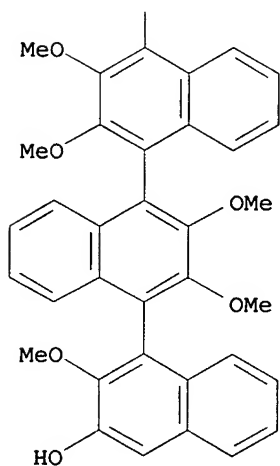
Chemical structure of compound 10: A central biphenyl core with a 2,6-dimethoxyphenyl group at position 1, a 2,6-dimethoxyphenyl group at position 4, and a 2-methoxy-6-acetoxylphenyl group at position 2.

## Les Henderson

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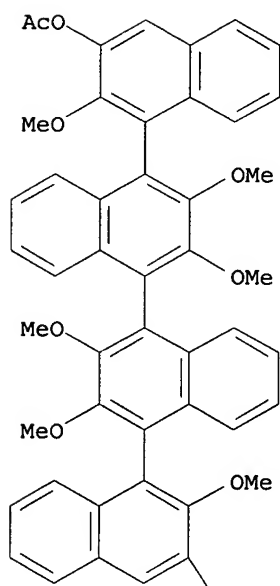


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RN 328235-20-7 HCAPLUS  
CN [1,1':4',1'':4'',1'''-Quaternaphthalene]-3,3'''-diol,  
2,2',2'',2''',3',3'''-hexamethoxy-, diacetate, (1S,1''S,1'''S)-  
(9CI) (CA INDEX NAME)

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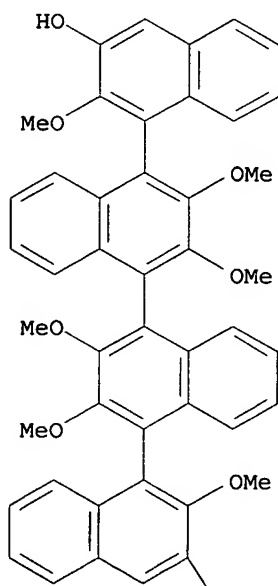


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RN 328235-21-8 HCAPLUS  
CN [1,1':4',1'':4'',1''':4'''-Quaternaphthalene]-3,3'''-diol,  
2,2',2'',2''',3',3'''-hexamethoxy-, monoacetate, (1S,1'''S,1''S)-  
(9CI) (CA INDEX NAME)

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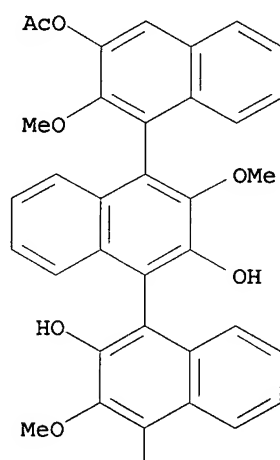


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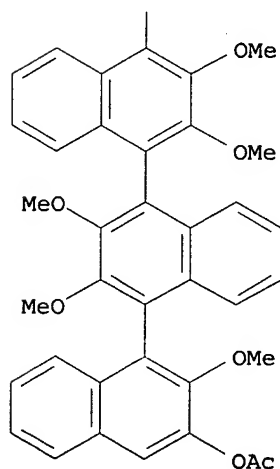


RN 328235-23-0 HCAPLUS  
 CN [1,1':4',1'':4'',1''':4''',1''':4''',1''':4'''-Sexinaphthalene]-  
 2'',3,3',3''''-tetrol, 2,2',2'',2''',2''',2''',3'',3'',3''''-  
 octamethoxy-, 3,3''''-diacetate, (1S,1''S,1''S,1''S,1''S,1''S)-  
 (9CI) (CA INDEX NAME)

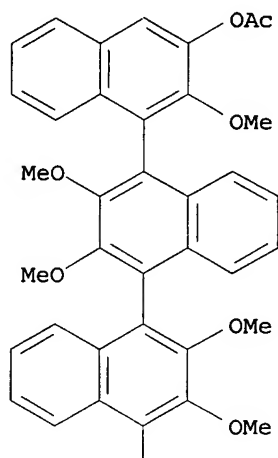
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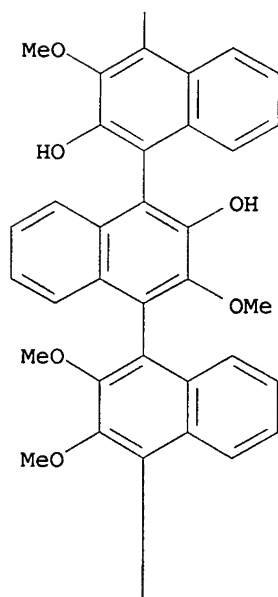
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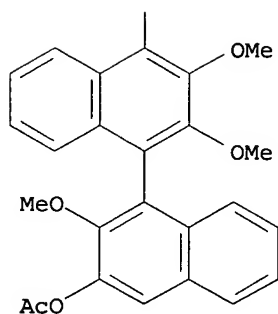


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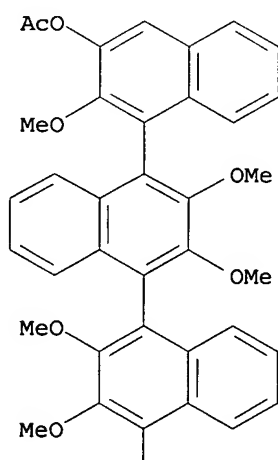


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RN      328235-25-2   HCAPLUS
CN      [1,1':4'',1'':4''',1'''':4''''',1''''':4''''',1''''':4''''',
        ',1''''''''-Octinaphthalene]-3,3''''''''-diol,
        2,2'',2''',2''''',2''''',2''''',2''''',2''''',3'',3'',3''',3''''',3''''
        ',3''''''-tetradecamethoxy-, diacetate,
        (1S,1''S,1''''S,1'''''S,1''''''S,1''''''S)- (9CI)  (CA
INDEX NAME)
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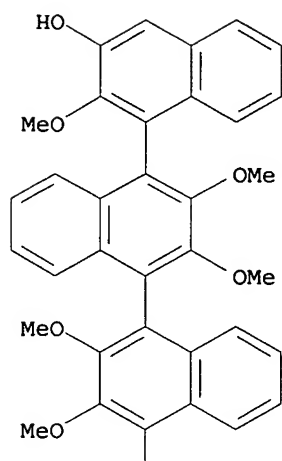
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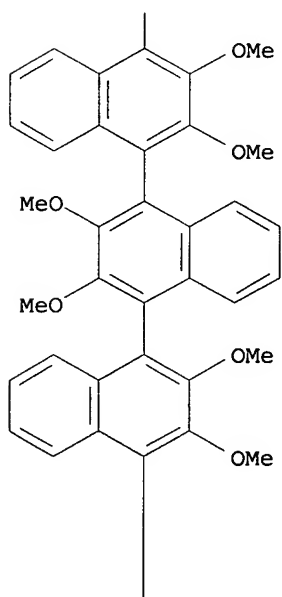
The chemical structure shows a central benzene ring substituted with two methoxy (MeO) groups and connected to three naphthalene units. The top naphthalene unit has two methoxy (OMe) groups. The bottom naphthalene unit also has two methoxy (OMe) groups. The central benzene ring is connected to the three naphthalene units at the 1, 3, and 5 positions.

```
RN      328235-26-3   HCAPLUS
CN      [1,1':4'',1'':4''',1'''':4''''',1''''':4''''',1''''':4''''',
        '',1'''''''''-Octinaphthalene]-3,3''''''''-diol,
        2,2',2'',2'''',2''''',2''''',2''''',3',3'',3''',3''''',3''''',
        ',3''''''''-tetradecamethoxy-, (1S,1''S,1'''S,1''''S,1''''S,1''''S,1''''S,1''''S)-
        'S,1''''''''S)- (9CI)    (CA INDEX NAME)
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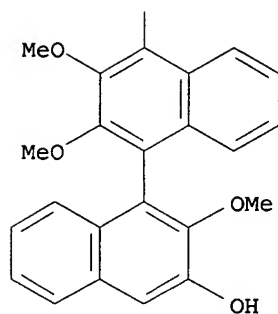
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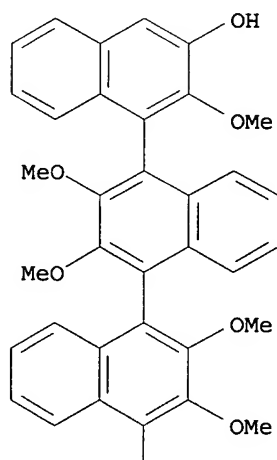


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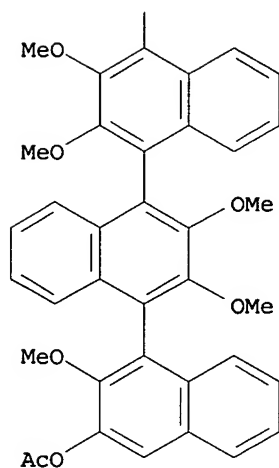


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RN      328235-28-5   HCAPLUS
CN      [1,1':4',1'':4'',1''':4'''',1''':4''''',1''':-Sexinaphthalene]-
        3,3''''-diol, 2,2'',2''',2''',2''',2''',3',3'',3''',3''''-
        decamethoxy-, monoacetate, (1S,1''S,1''S,1''S,1''S)- (9CI)
        (CA INDEX NAME)
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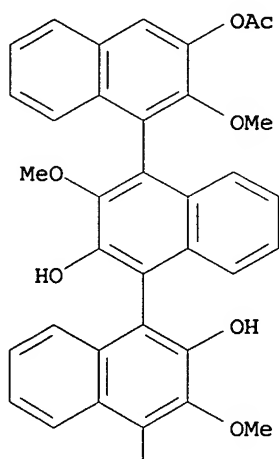
PAGE 1-A



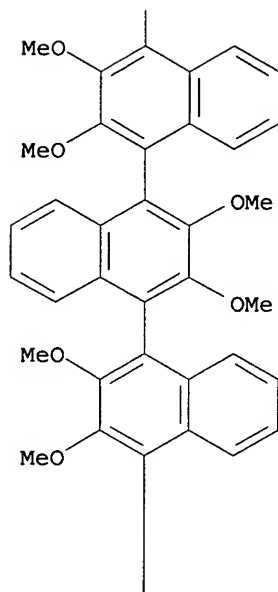
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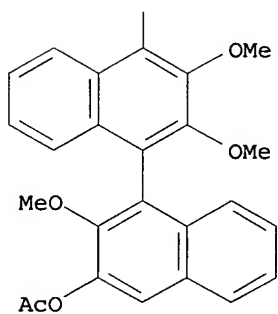
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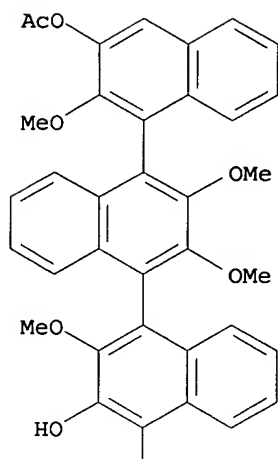


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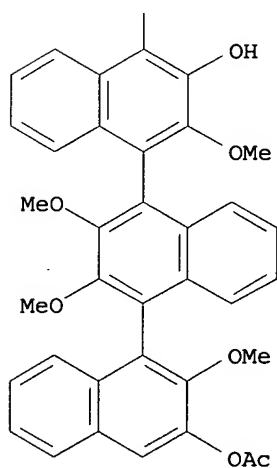


RN 328379-62-0 HCAPLUS  
 CN [1,1':4',1'':4'',1''':4''',1''':4''',1''':4'''-Sexinaphthalene]-  
 2''',3,3'',3''''-tetrol, 2,2',2'',2''',2''',2''',3',3''',3''''-  
 octamethoxy-, 3,3''''-diacetate, (1S,1''S,1''R,1''''S,1''''S)-  
 (9CI) (CA INDEX NAME)

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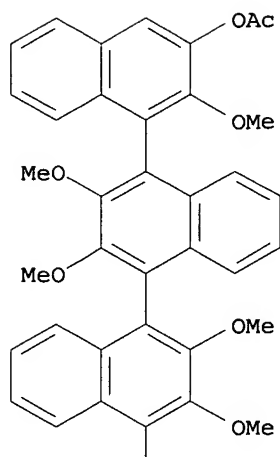


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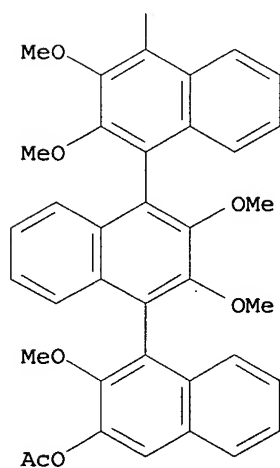


RN 328379-63-1 HCAPLUS  
 CN [1,1':4',1'':4'',1''':4''',1''':4''',1''':4'''-Sexinaphthalene]-  
 3,3''''-diol, 2,2',2'',2''',2''',2''',3',3'',3''',3''''-  
 decamethoxy-, diacetate, (1S,1''S,1'''R,1''''S,1''''S)- (9CI)  
 (CA INDEX NAME)

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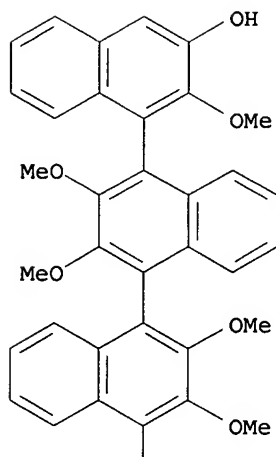
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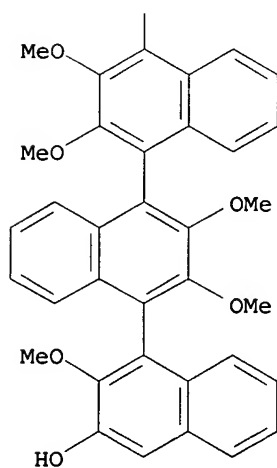
RN 328379-64-2 HCAPLUS  
 CN [1,1':4',1'':4'',1''':4''',1''':4''',1''':4'''-Sexinaphthalene]-  
 3,3''''-diol, 2,2',2'',2''',2''',2''',2''',2''',3',3'',3''',3''''-  
 decamethoxy-, (1S,1''S,1''''R,1''''S,1''''S)- (9CI) (CA INDEX  
 NAME)



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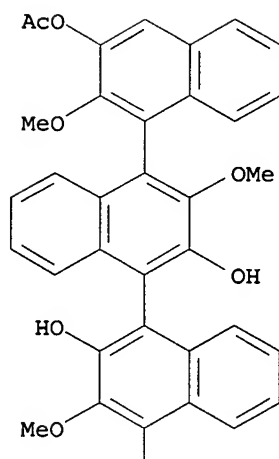


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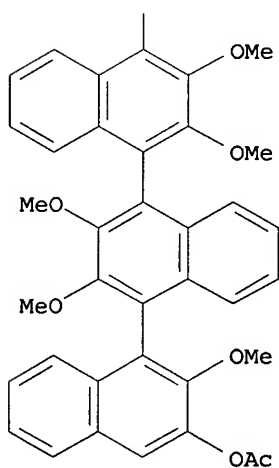


RN 328379-66-4 HCAPLUS  
 CN [1,1':4',1'':4'',1''':4'''-Sexinaphthalene]-  
 2'',3,3',3''''-tetrol, 2,2',2'',2''',2''''-3'',3''',3''''-  
 octamethoxy-, 3,3''''-diacetate, (1S,1''R,1''''S,1''''S,1''''S)-  
 (9CI) (CA INDEX NAME)

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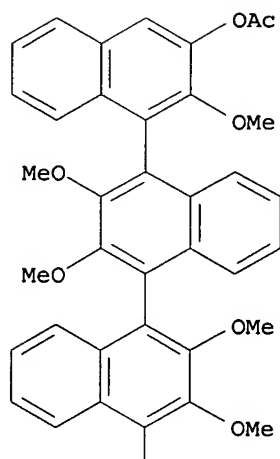


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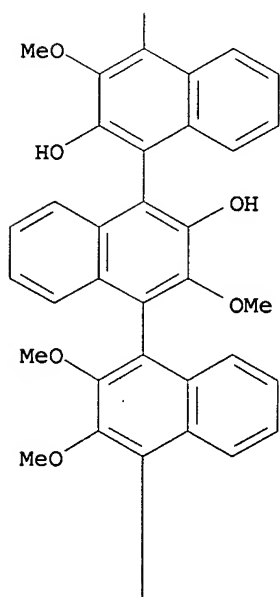


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        '',1'''''''''-Octinaphthalene]-2''''',3,3''',3'''''''''-tetrol,
        2,2'',2''',2''''',2'''''',2''''''',3',3'',3''''',3''''''',3''''''''-
        dodecamethoxy-, 3,3'''''''''-diacetate,
        (1S,1'S,1''''R,1''''''S,1''''''''S,1''''''''''S)- (9CI)  (CA
INDEX NAME)
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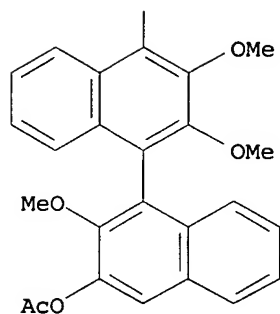
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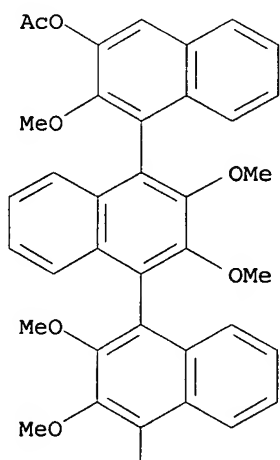


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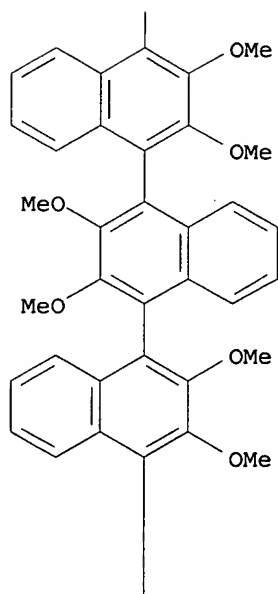


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CN      [1,1':4'',1'':4''',1'''':4''''',1''''':4''''',1''''':4''''',
        '',1''''''''-Octinaphthalene]-3,3''''''''-diol,
        2,2'',2''',2''''',2''''',2''''',2''''',3'',3'',3''',3''''',3''''
        ',3''''''-tetradecamethoxy-, diacetate,
        (1S,1''S,1''''S,1'''''R,1''''''S,1''''''''S,1''''''''S)- (9CI)  (CA
INDEX NAME)
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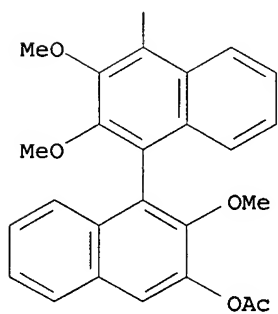
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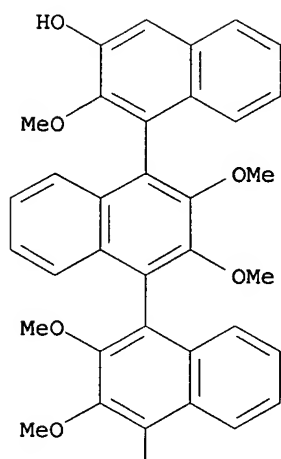


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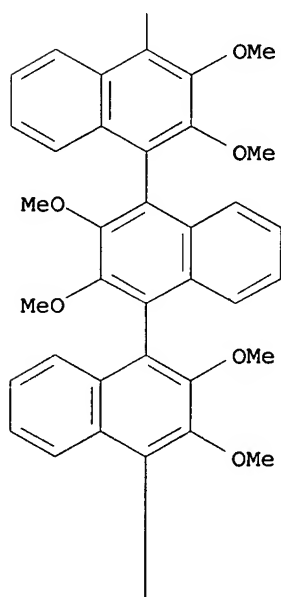


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        '',1''''''''-Octinaphthalene]-3,3''''''''-diol,
        2,2',2'',2''',2''',2''',2''',2''',2''',2''',2''',2''',2''',2''',2''',2''',
        ',3''''''''-tetradecamethoxy-, (1S,1''S,1''''S,1''''''R,1''''''S,1''''''
        'S,1''''''''S)- (9CI)  (CA INDEX NAME)
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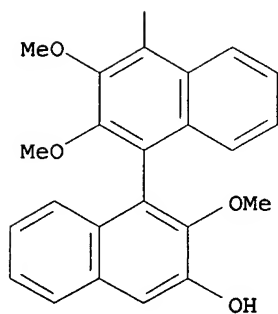
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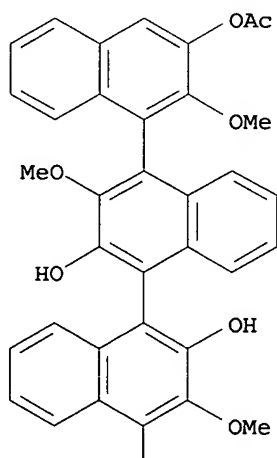


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        ''',1''''''''-Octinaphthalene]-2'',3,3',3''''''''-tetrol,
        2,2'',2''',2''''',2''''''',2''''''',2''''''',3'',3''',3''''',3''''',3''''
        '''-dodecamethoxy-, 3,3''''''''-diacetate,
        (1S,1''R,1''''S,1''''''S,1''''''S,1''''''S,1''''''S)- (9CI)  (CA
INDEX NAME)
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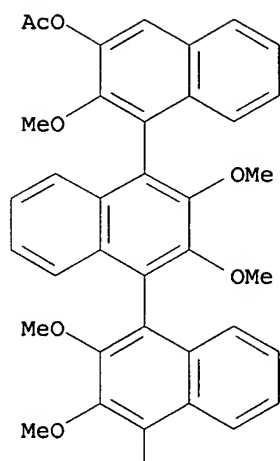




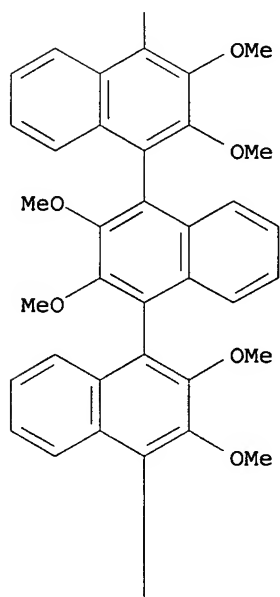
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571-272-2538

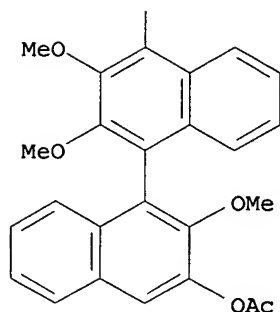
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CC 25-24 (Benzene, Its Derivatives, and Condensed Benzenoid Compounds)

IT 183015-40-9 183015-42-1 183182-75-4  
 RL: PRP (Properties)  
 (preparation and optical properties of configurationally defined sexi- and octinaphthalenes)

IT 328235-19-4P 328235-27-4P 328379-65-3P  
 328379-71-1P 721923-85-9P  
 RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)  
 (preparation and optical properties of configurationally defined sexi- and octinaphthalenes)

IT 328235-15-0P 328235-16-1P 328235-17-2P  
 328235-18-3P 328235-20-7P 328235-21-8P  
 328235-23-0P 328235-24-1P 328235-25-2P  
 328235-26-3P 328235-28-5P 328235-29-6P  
 328379-62-0P 328379-63-1P 328379-64-2P  
 328379-66-4P 328379-68-6P 328379-69-7P  
 328379-70-0P 328379-72-2P 721923-83-7P  
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)  
 (preparation and optical properties of configurationally defined sexi- and octinaphthalenes)

IT 328379-67-5P 721923-84-8P  
 RL: SPN (Synthetic preparation); PREP (Preparation)  
 (preparation and optical properties of configurationally defined sexi- and octinaphthalenes)

REFERENCE COUNT: 36 THERE ARE 36 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L54 ANSWER 19 OF 51 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2004:272156 HCAPLUS

DOCUMENT NUMBER: 140:312148

TITLE: Organic electroluminescent device and electroluminescent display

INVENTOR(S): Kita, Hiroshi; Suzurizato, Yoshiyuki; Yamada, Taketoshi; Karatsu, Takashi; Kitamura, Akihide

PATENT ASSIGNEE(S): Konica Minolta Holdings Inc., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 23 pp.  
 CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2004103463	A2	20040402	JP 2002-265416	

2002  
0911

PRIORITY APPLN. INFO.:

JP 2002-265416

2002  
0911

OTHER SOURCE(S): MARPAT 140:312148

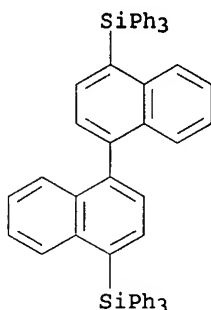
AB The title device contains specific triphenylarylsilane in an **electroluminescent** layer. The silane compound is used a host compound or an electron transporting compound. The title device shows improved **electroluminescence** and high durability.

IT 676553-38-1

RL: TEM (Technical or engineered material use); USES (Uses)  
(silane compound in organic **electroluminescent** device)

RN 676553-38-1 HCAPLUS

CN Silane, [1,1'-binaphthalene]-4,4'-diylbis[triphenyl- (9CI) (CA  
INDEX NAME)



IC ICM H05B033-14

ICS C09K011-06; H05B033-22; C07F007-08; C07F007-10

CC 74-13 (Radiation Chemistry, Photochemistry, and Photographic and  
Other Reprographic Processes)

Section cross-reference(s): 29, 73

ST org **electroluminescent** device display aryl silane

IT Silanes

RL: TEM (Technical or engineered material use); USES (Uses)  
(aryl; silane compound in organic **electroluminescent**  
device)

IT **Electroluminescent** devices

(displays; organic **electroluminescent** device and  
**electroluminescent** display)

IT **Luminescent** screens

(**electroluminescent**; organic  
**electroluminescent** device and  
**electroluminescent** display)

IT **Electroluminescent** devices

(organic **electroluminescent** device and  
**electroluminescent** display)

IT 676553-36-9 676553-37-0 676553-38-1 676553-39-2

676553-40-5 676553-41-6 676553-42-7 676553-43-8

676553-44-9

RL: TEM (Technical or engineered material use); USES (Uses)  
(silane compound in organic **electroluminescent** device)

L54 ANSWER 20 OF 51 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2004:250603 HCAPLUS

DOCUMENT NUMBER: 140:279723

TITLE: Organic amine field-effect transistors

INVENTOR(S): Tsurutani, Yasuyuki; Takeuchi, Masako;

Ichinosawa, Akiko; Aramaki, Shinji

PATENT ASSIGNEE(S): Mitsubishi Chemical Corp., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 20 pp.  
 CODEN: JKXXAF  
 DOCUMENT TYPE: Patent  
 LANGUAGE: Japanese  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2004095850	A2	20040325	JP 2002-254876	2002 0830
PRIORITY APPLN. INFO.:				2002 0830

AB The organic semiconductor layers provided in the title FETs comprise aromatic amines and condensed heterocyclic amines  
 $X_1X_2N \cdot A \cdot NX_3X_4$  [A = (substd.)alkylene, (substd.)arylene, (substd.)heterocyclic divalent group;  $X_1-4$  = (amino-substd.)aryl, (amino-substd.)heterocyclyl;  $\geq 1$  of A and/or  $X_1-4$  contain aromatic and/or condensed heterocyclic rings]. The organic semiconductor layers have high electron mobility, chemical stability in air, and easy manufacturable by coating process.

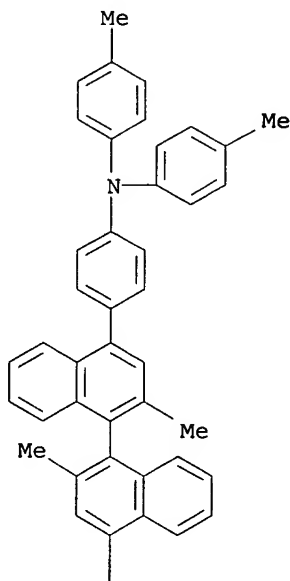
IT 674819-57-9P

RL: DEV (Device component use); PNU (Preparation, unclassified);  
 PRP (Properties); PREP (Preparation); USES (Uses)  
 (semiconductor material; aromatic diamine semiconductive field-effect transistors)

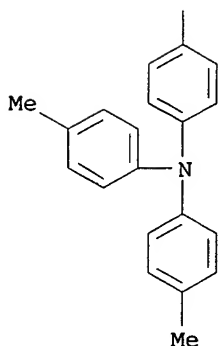
RN 674819-57-9 HCAPLUS

CN Benzenamine, 4,4'-(2,2'-dimethyl[1,1'-binaphthalene]-4,4'-diyl)bis[N,N-bis(4-methylphenyl)- (9CI) (CA INDEX NAME)

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IC ICM H01L051-00  
 ICS C07C211-54; G02F001-1368; H01L029-786; H01L029-80  
 CC 76-3 (Electric Phenomena)  
 Section cross-reference(s): 25, 27, 28  
 IT 182507-83-1P 528609-95-2P 674819-51-3P 674819-53-5P  
 674819-55-7P **674819-57-9P**  
 RL: DEV (Device component use); PNU (Preparation, unclassified);  
 PRP (Properties); PREP (Preparation); USES (Uses)  
 (semiconductor material; aromatic diamine semiconductive  
 field-effect transistors)

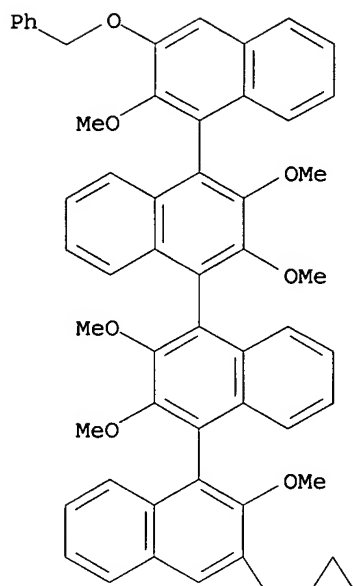
L54 ANSWER 21 OF 51 HCAPLUS COPYRIGHT 2006 ACS on STN  
 ACCESSION NUMBER: 2003:960517 HCAPLUS  
 DOCUMENT NUMBER: 140:163563  
 TITLE: Synthesis of Optically Active  
 Oligonaphthalenes via Second-Order Asymmetric  
 Transformation  
 AUTHOR(S): Tsubaki, Kazunori; Miura, Masaya; Morikawa,  
 Hiroshi; Tanaka, Hiroyuki; Kawabata, Takeo;  
 Furuta, Takumi; Tanaka, Kiyoshi; Fuji, Kaoru  
 CORPORATE SOURCE: Institute for Chemical Research, Kyoto  
 University, Uji, Kyoto, 611-0011, Japan  
 SOURCE: Journal of the American Chemical Society  
 (2003), 125(52), 16200-16201  
 CODEN: JACSAT; ISSN: 0002-7863  
 PUBLISHER: American Chemical Society  
 DOCUMENT TYPE: Journal  
 LANGUAGE: English  
 OTHER SOURCE(S): CASREACT 140:163563

AB Synthesis of numerous optically active rod-shaped  
 oligo(2,3-dioxyfunctionalized)naphthalenes connected at their  
 1,4-positions was achieved using oxidative coupling under  
 CuCl<sub>2</sub>/α-methylbenzylamine conditions by second-order asym.  
 transformation. We believe this method is practical and should  
 contribute to the field of material science.

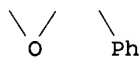
IT 651026-29-8P 651026-30-1P 651026-31-2P  
 651026-32-3P 651026-33-4P  
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP  
 (Preparation); RACT (Reactant or reagent)  
 (preparation of optically active rod-shaped oligonaphthalenes using  
 oxidative coupling under copper chloride/α-  
 methylbenzylamine conditions by second-order asym.  
 transformation)

RN 651026-29-8 HCAPLUS  
 CN 1,1':4',1'':4'',1'''-Quaternaphthalene, 2,2',2'',2''',3',3'''-  
 hexamethoxy-3,3'''-bis(phenylmethoxy)-, (1S,1''S,1'''S)- (9CI)  
 (CA INDEX NAME)

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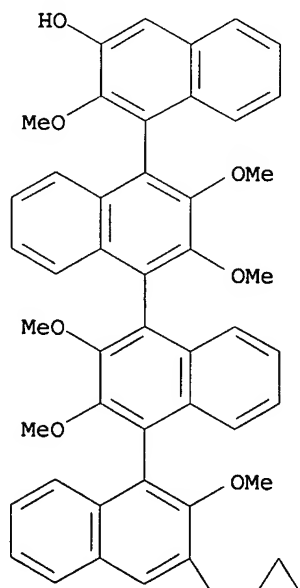


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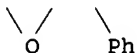


RN 651026-30-1 HCAPLUS  
 CN [1,1':4',1'':4'',1''':4'''-Quaternaphthalen]-3-ol, 2,2',2'',2''',3',3'''-  
 hexamethoxy-3'''-(phenylmethoxy)-, (1S,1''S,1'''S)- (9CI) (CA  
 INDEX NAME)

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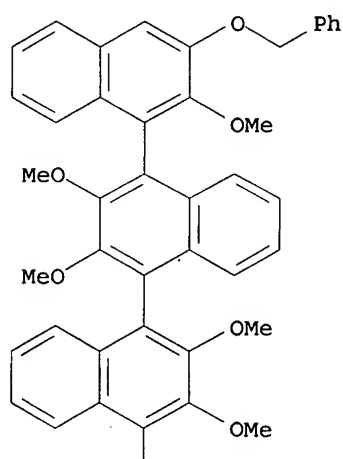


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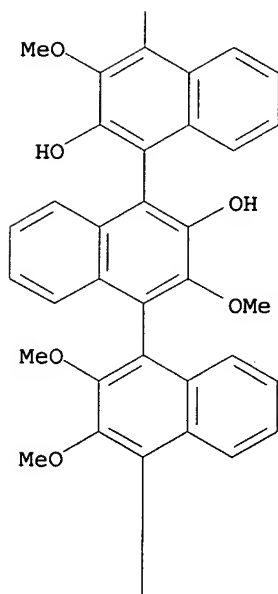
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        ',1''':4'''-Octinaphthalene]-2''':3''':diol,
        2,2',2'',2''',2''':2'',2''':2'',2''':2'',2''':2'',2''':2''':-
        dodecamethoxy-3,3''':bis(phenylmethoxy)-,
        (1S,1''':S,1''':S,1''':S,1''':S,1''':S,1''':S,1''':S)- (9CI)  (CA
INDEX NAME)
```

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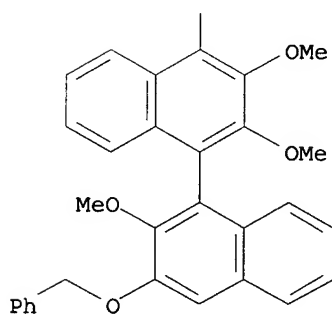




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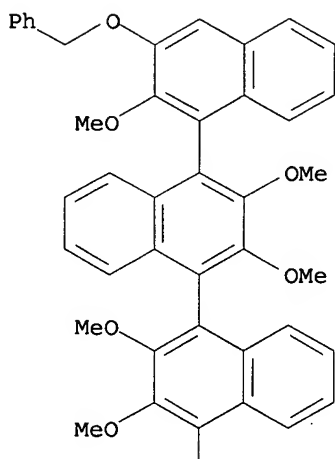


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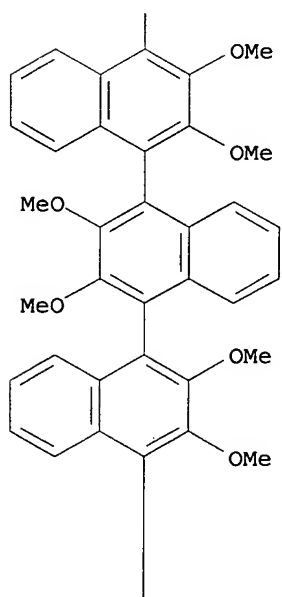


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CN      1,1':4',1'':4'',1''':4'''',1'''':4''''',1''''':4'''''
        ',1'''''-Octinaphthalene, 2,2',2'',2'''',2''''',2'''''',2''
        ''',3',3'',3'''',3'''''',3''''''-tetradecamethoxy-3,3''''''-
bis(phenylmethoxy)-, (1S,1'S,1''S,1'''S,1''''S,1'''''S,1''''''S,1''''')
        )S)-(9CI)    (CA INDEX NAME)
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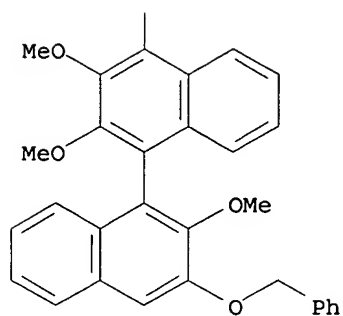
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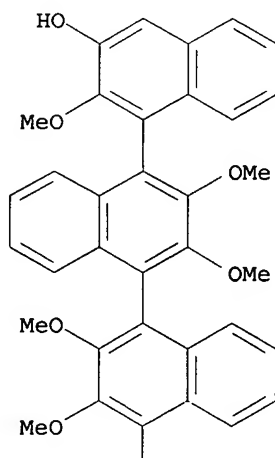


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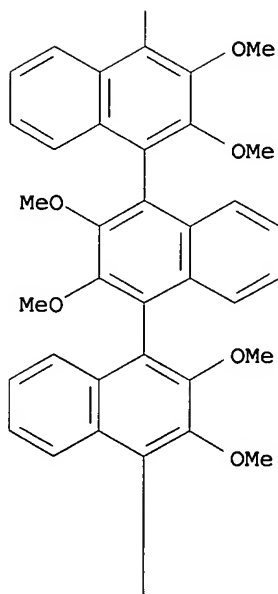


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RN      651026-33-4   HCAPLUS
CN      [1,1':4'',1'':4''',1'''':4''''',1''''':4''''',1''''':4''''',
        ',1''''''-Octinaphthalen]-3-ol, 2,2',2'',2''',2''''',2''''',2''''',
        ',2''''',3',3'',3''',3''''',3''''',3'''''-tetradecamethoxy-
        3''''''-(phenylmethoxy)-, (1S,1'S,1''S,1'''S,1''''S,1''''S,
        1''''''S)-(9CI) (CA INDEX NAME)
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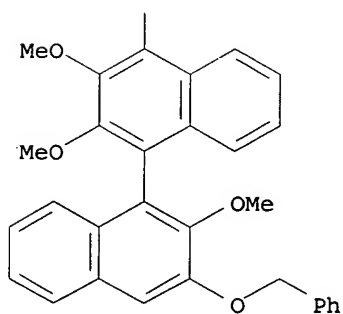
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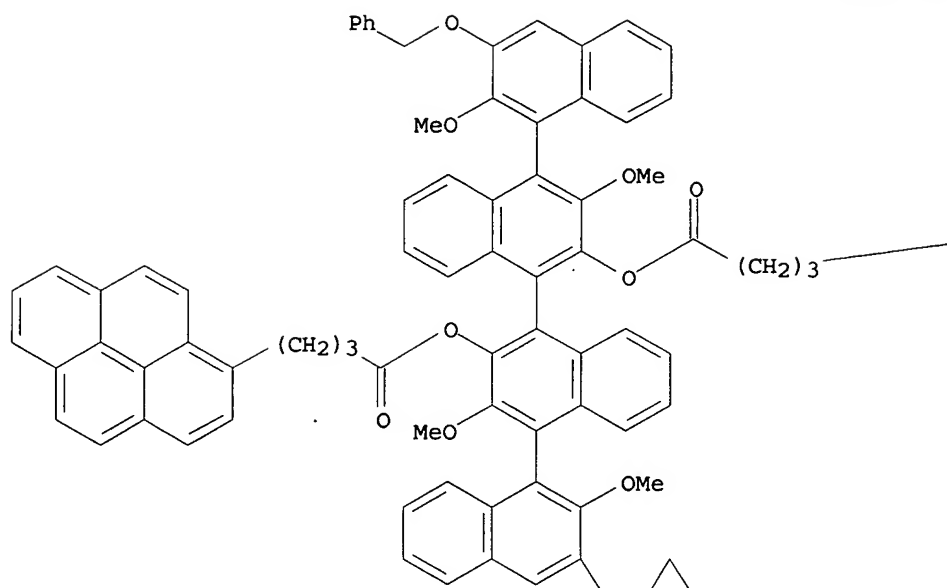
IT 651026-37-8P 651026-38-9P 651299-72-8P  
651299-89-7P

RL: SPN (Synthetic preparation); PREP (Preparation)  
(preparation of optically active rod-shaped oligonaphthalenes using  
oxidative coupling under copper chloride/ $\alpha$ -  
methylbenzylamine conditions by second-order asym.  
transformation)

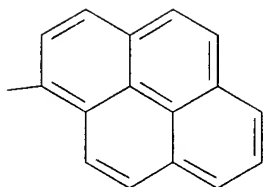
RN 651026-37-8 HCAPLUS

CN 1-Pyrenebutanoic acid, (1S,1''S,1'''S)-2,2',2''',3'''-tetramethoxy-  
3,3'''-bis(phenylmethoxy) [1,1':4',1'':4'',1'''-quaternaphthalene]-  
2'',3'-diyl ester (9CI) (CA INDEX NAME)

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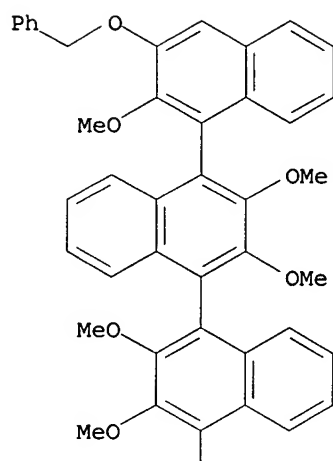


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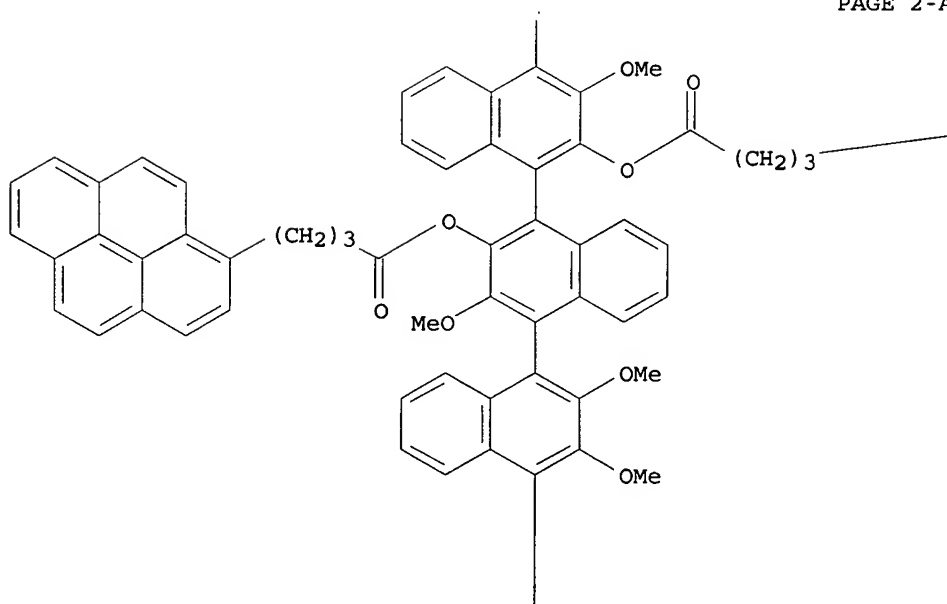


RN 651026-38-9 HCAPLUS  
 CN 1-Pyrenebutanoic acid, (1S,1''S,1'''S,1''''S,1'''''S,1''''''S,1'''''''S,1''''''''S,1'''''''''S)-2,2',2'',2''',2''''',2''''''',2''''''''',2'''''''''',3',3'',3''',3''''',3''''''',3''''''''',3'''''''''',3''''''''''-dodecamethoxy-3,3''''''''-bis(phenylmethoxy) [1,1':4',1''':4'',1''':4''',1''''':4''''',1''''''':4''''''',1''''''''':4''''''''',1'''''''''':4'''''''''',1''''''''''':4''''''''''-octinaphthalene]-2''''',3''''-diyl ester (9CI) (CA INDEX NAME)

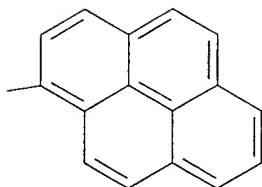
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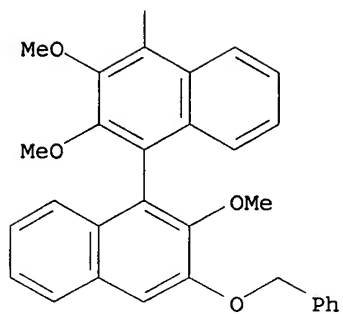
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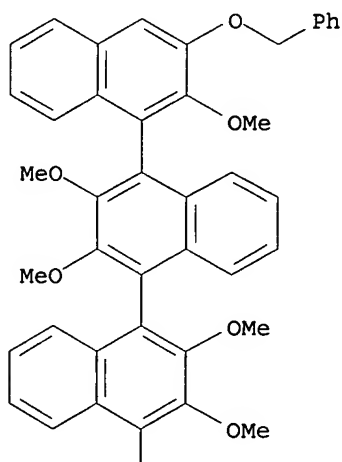
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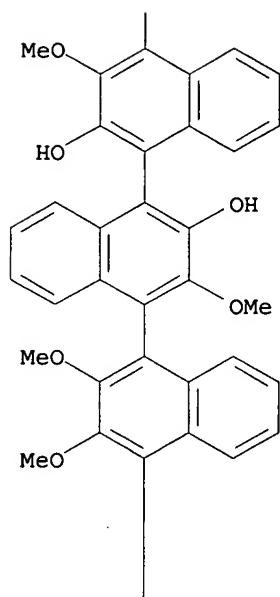
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[illegible]

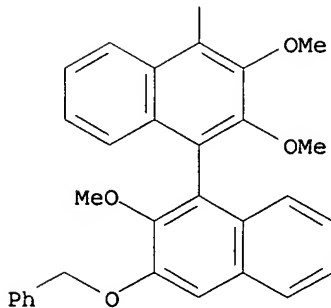
PAGE 1-A



PAGE 2-A



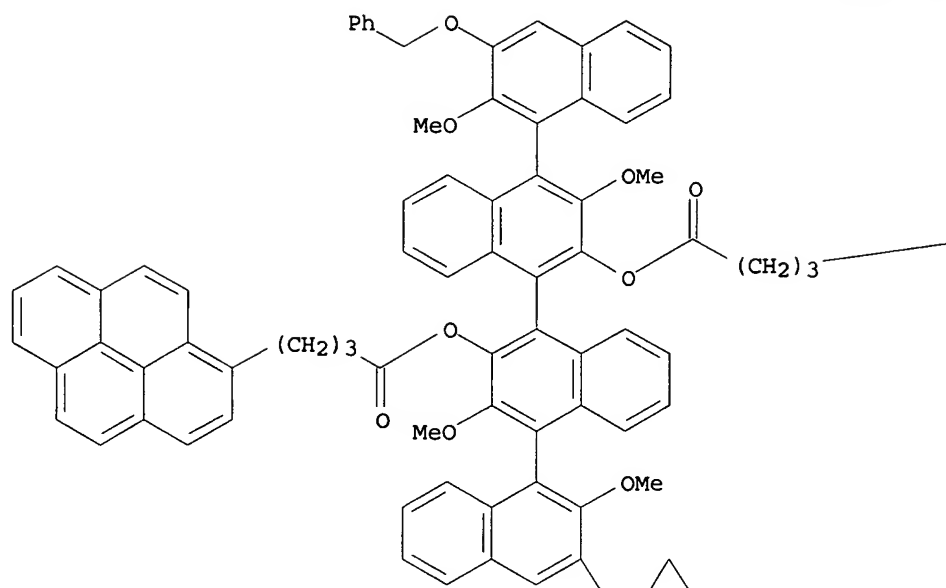
PAGE 3-A



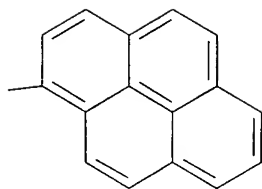
RN 651299-89-7 HCAPLUS  
 CN 1-Pyrenebutanoic acid, (1S,1''R,1'''S)-2,2',2''',3''-tetramethoxy-  
 3,3'''-bis(phenylmethoxy) [1,1':4',1'':4'',1'''-quaternaphthalene]-  
 2'',3'-diyl ester (9CI) (CA INDEX NAME)



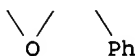
PAGE 1-A



PAGE 1-B



PAGE 2-A



CC 25-24 (Benzene, Its Derivatives, and Condensed Benzenoid Compounds)

IT 651026-26-5P 651026-27-6P 651026-28-7P **651026-29-8P**  
**651026-30-1P** 651026-31-2P 651026-32-3P  
**651026-33-4P** 651299-71-7P 656832-06-3P 656832-07-4P  
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)  
 (preparation of optically active rod-shaped oligonaphthalenes using oxidative coupling under copper chloride/ $\alpha$ -methylbenzylamine conditions by second-order asym. transformation)

IT 651026-36-7P 651026-37-8P 651026-38-9P  
 651299-72-8P 651299-89-7P 656832-08-5P

656832-09-6P 656832-11-0P

RL: SPN (Synthetic preparation); PREP (Preparation)  
 (preparation of optically active rod-shaped oligonaphthalenes using  
 oxidative coupling under copper chloride/ $\alpha$ -  
 methylbenzylamine conditions by second-order asym.  
 transformation)

REFERENCE COUNT: 13 THERE ARE 13 CITED REFERENCES AVAILABLE  
 FOR THIS RECORD. ALL CITATIONS AVAILABLE  
 IN THE RE FORMAT

L54 ANSWER 22 OF 51 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2003:773843 HCAPLUS

DOCUMENT NUMBER: 139:298985

TITLE: Organic electroluminescent device  
 and display with phenyl pyridine derivative  
 INVENTOR(S): Kita, Hiroshi; Yamada, Taketoshi; Matsuura,  
 Mitsunobu; Inoue, Yoshio; Oi, Shuichi;  
 Takayama, Shoichi

PATENT ASSIGNEE(S): Konica Co., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 26 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

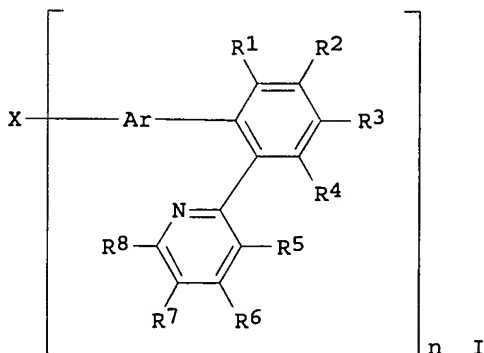
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2003282270	A2	20031003	JP 2002-82918	2002 0325

PRIORITY APPLN. INFO.: JP 2002-82918

2002  
0325

OTHER SOURCE(S): MARPAT 139:298985

GI



AB The invention refers to an organic electroluminescent  
 device comprising at least one Ph pyridine compound I [Z = n-valent  
 bridging group or single bond; Ar = divalent arylene; R1-8 - H or  
 substituent wherein adjacent groups may join to form rings; n = 2  
 - 6].

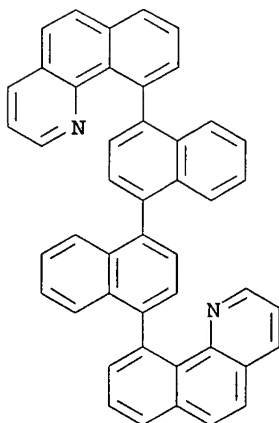
IT 474304-10-4

RL: DEV (Device component use); USES (Uses)

(organic electroluminescent device and display with Ph  
pyridine derivative)

RN 474304-10-4 HCAPLUS

CN Benzo[h]quinoline, 10,10'-[1,1'-binaphthalene]-4,4'-diylbis- (9CI)  
(CA INDEX NAME)



IC ICM H05B033-22

ICS C09K011-06; H05B033-14

CC 73-11 (Optical, Electron, and Mass Spectroscopy and  
Other Related Properties)

ST electroluminescent display device phenyl pyridine

IT Electroluminescent devices

(displays; organic electroluminescent device and display  
with Ph pyridine derivative)

IT Luminescent screens

(electroluminescent; organic  
electroluminescent device and display with Ph pyridine  
derivative)

IT 474304-10-4 608145-69-3 608145-70-6 608145-72-8

608145-73-9 608145-74-0 608145-75-1 608145-76-2

608145-77-3 608145-78-4 608145-79-5 608145-80-8

608145-81-9 608145-82-0 608145-83-1 608145-84-2

608145-85-3 608145-86-4 608145-87-5 608145-88-6

608145-89-7 608145-90-0 608145-91-1 608145-92-2

RL: DEV (Device component use); USES (Uses)

(organic electroluminescent device and display with Ph  
pyridine derivative)

L54 ANSWER 23 OF 51 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2003:442711 HCAPLUS

DOCUMENT NUMBER: 139:246185

TITLE: Symmetrical 4,4',6,6'-tetraarylbinaphthyl-  
substituted ammonium bromide as a new, chiral  
phase-transfer catalyst

AUTHOR(S): Hashimoto, Takuya; Tanaka, Youhei; Maruoka,  
Keiji

CORPORATE SOURCE: Graduate School of Science, Department of  
Chemistry, Kyoto University, Kyoto, 606-8502,  
Japan

SOURCE: Tetrahedron: Asymmetry (2003), 14(12),  
1599-1602

CODEN: TASYE3; ISSN: 0957-4166

PUBLISHER: Elsevier Science B.V.

DOCUMENT TYPE: Journal

LANGUAGE: English

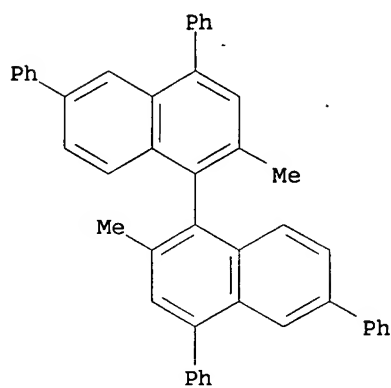
OTHER SOURCE(S): CASREACT 139:246185

*Not  
Electrolum.*

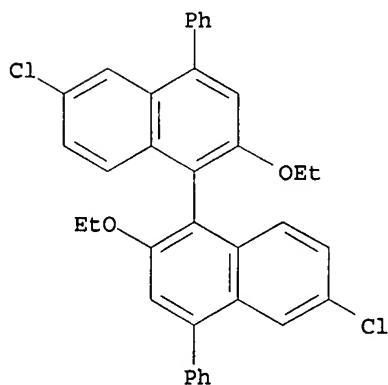
AB Binaphthyl-modified spiro-type sym. phase-transfer catalysts possessing 4,4',6,6'-tetraaryl substituents are shown to exhibit high asym. induction in asym. alkylation of benzophenone imine glycine tert-Bu ester under ordinary phase-transfer conditions.

IT 583050-13-9P 583050-16-2P 583050-17-3P  
583050-20-8P 583050-21-9P 596107-96-9P  
596107-97-0P 596107-98-1P 596107-99-2P  
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)  
(preparation of tetraarylbinaphthyl-substituted ammonium bromides as chiral phase-transfer catalysts and their using for asym. alkylation of benzophenone imine glycine tert-Bu ester)

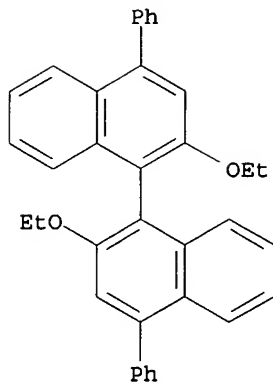
RN 583050-13-9 HCAPLUS  
CN 1,1'-Binaphthalene, 2,2'-dimethyl-4,4',6,6'-tetraphenyl-, (1S)-(9CI) (CA INDEX NAME)



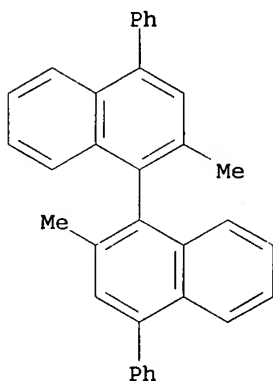
RN 583050-16-2 HCAPLUS  
CN 1,1'-Binaphthalene, 6,6'-dichloro-2,2'-diethoxy-4,4'-diphenyl-, (1S)-(9CI) (CA INDEX NAME)



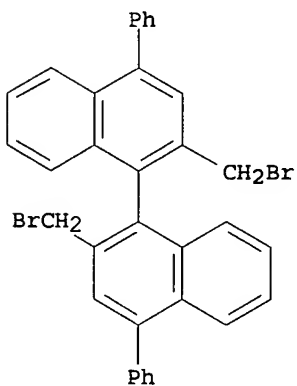
RN 583050-17-3 HCAPLUS  
CN 1,1'-Binaphthalene, 2,2'-diethoxy-4,4'-diphenyl-, (1S)-(9CI) (CA INDEX NAME)



RN 583050-20-8 HCAPLUS  
 CN 1,1'-Binaphthalene, 2,2'-dimethyl-4,4'-diphenyl-, (1S)- (9CI) (CA INDEX NAME)

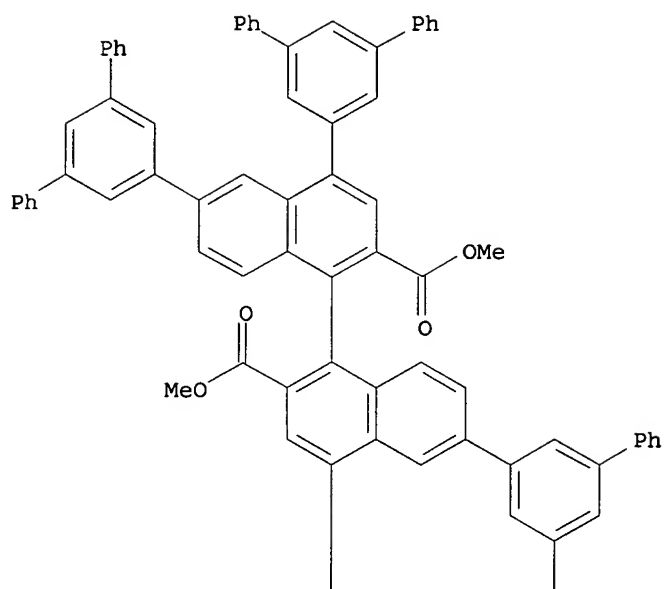


RN 583050-21-9 HCAPLUS  
 CN 1,1'-Binaphthalene, 2,2'-bis(bromomethyl)-4,4'-diphenyl-, (1S)- (9CI) (CA INDEX NAME)

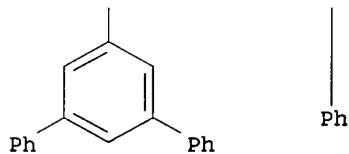


RN 596107-96-9 HCAPLUS  
 CN [1,1'-Binaphthalene]-2,2'-dicarboxylic acid, 4,4',6,6'-tetrakis([1,1':3',1''-terphenyl]-5'-yl)-, dimethyl ester, (1S)- (9CI) (CA INDEX NAME)

PAGE 1-A

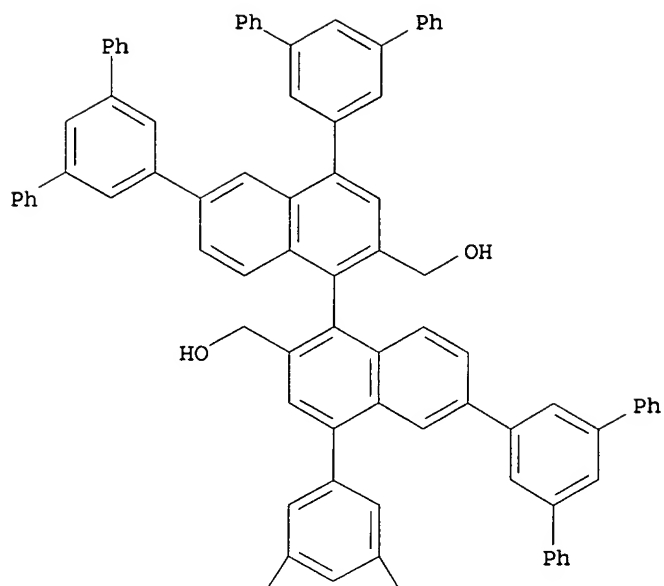


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RN 596107-97-0 HCAPLUS  
CN [1,1'-Binaphthalene]-2,2'-dimethanol, 4,4',6,6'-  
tetrakis([1,1':3',1''-terphenyl]-5'-yl)-, (1S)- (9CI) (CA INDEX  
NAME)

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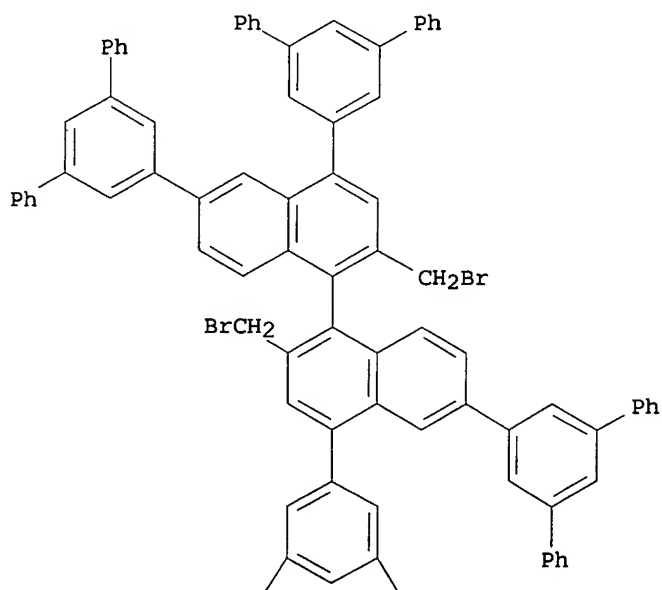


PAGE 2-A



RN 596107-98-1 HCAPLUS  
 CN 1,1'-Binaphthalene, 2,2'-bis(bromomethyl)-4,4',6,6'-  
 tetrakis([1,1':3',1''-terphenyl]-5'-yl)-, (1S)-(9CI) (CA INDEX  
 NAME)

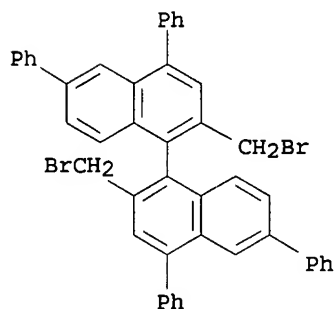
PAGE 1-A



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RN 596107-99-2 HCAPLUS  
 CN 1,1'-Binaphthalene, 2,2'-bis(bromomethyl)-4,4',6,6'-tetraphenyl-  
 (9CI) (CA INDEX NAME)



CC 34-2 (Amino Acids, Peptides, and Proteins)  
 Section cross-reference(s): 25  
 IT 583050-12-8P 583050-13-9P 583050-16-2P  
 583050-17-3P 583050-18-4P 583050-19-5P  
 583050-20-8P 583050-21-9P 596107-96-9P  
 596107-97-0P 596107-98-1P 596107-99-2P  
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP  
 (Preparation); RACT (Reactant or reagent)  
 (preparation of tetraarylbinaphthyl-substituted ammonium bromides as  
 chiral phase-transfer catalysts and their using for asym.  
 alkylation of benzophenone imine glycine tert-Bu ester)  
 REFERENCE COUNT: 21 THERE ARE 21 CITED REFERENCES AVAILABLE  
 FOR THIS RECORD. ALL CITATIONS AVAILABLE  
 IN THE RE FORMAT

L54 ANSWER 24 OF 51 HCAPLUS COPYRIGHT 2006 ACS on STN  
 ACCESSION NUMBER: 2003:317784 HCAPLUS  
 DOCUMENT NUMBER: 138:346233  
 TITLE: Organic electroluminescent component  
 with 1,10-phenanthroline derivative  
 INVENTOR(S): Kita, Hiroshi; Yamada, Taketoshi  
 PATENT ASSIGNEE(S): Konica Co., Japan  
 SOURCE: Jpn. Kokai Tokkyo Koho, 25 pp.  
 CODEN: JKXXAF  
 DOCUMENT TYPE: Patent  
 LANGUAGE: Japanese  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2003123983	A2	20030425	JP 2001-312533	2001 1010
PRIORITY APPLN. INFO.:				2001 1010



OTHER SOURCE(S): MARPAT 138:346233

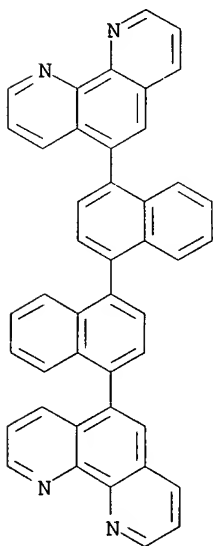
AB The invention refers to an organic **electroluminescent** component comprising a compound with 2 - 8 of 1,10-phenanthroline moieties linked by bonds or by bridging groups, where the phenanthrolines may be substituted and the substituents may join together to form rings. Luminous brightness it improves and the **organic electro- luminescence** element, and its **organic electro- luminescence** element which are converted long-lived were used elec. power consumption, it offers the long-lived display low. The **organic electro- luminescence** element which features that at least 1 kind of chemical compound where the organic layer which it forms in 1 layer, is shown at least with the below-mentioned general formula (1) is contained.

IT 515142-76-4

RL: DEV (Device component use); USES (Uses)  
(organic **electroluminescent** component with  
1,10-phenanthroline derivative)

RN 515142-76-4 HCAPLUS

CN 1,10-Phenanthroline, 5,5'-[1,1'-binaphthalene]-4,4'-diylbis- (9CI)  
(CA INDEX NAME)



IC ICM H05B033-22

ICS C09K011-06; G09F009-30; H05B033-12; H05B033-14

CC 73-11 (Optical, Electron, and Mass Spectroscopy and  
Other Related Properties)

ST **electroluminescent** device phenanthroline

IT **Electroluminescent** devices  
(organic **electroluminescent** component with  
1,10-phenanthroline derivative)

IT 66-71-7, 1-10-Phenanthroline

RL: DEV (Device component use); USES (Uses)  
(derivs.; organic **electroluminescent** component with  
1,10-phenanthroline derivative)

IT 4392-83-0, 2,2':6',2'':6'',2'''-Quaterpyridine 105440-22-0

142608-59-1 158753-10-7 515142-75-3 515142-76-4

515142-77-5 515142-78-6 515142-79-7 515142-80-0

515142-81-1 515142-82-2 515142-83-3 515142-84-4

RL: DEV (Device component use); USES (Uses)  
(organic **electroluminescent** component with

1,10-phenanthroline derivative)

L54 ANSWER 25 OF 51 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2003:295393 HCAPLUS

DOCUMENT NUMBER: 139:28436

TITLE: New Series of Blue-Emitting and  
Electron-Transporting Copolymers Based on  
CyanostilbeneAUTHOR(S): Zhan, Xiaowei; Wang, Shuai; Liu, Yunqi; Wu,  
Xia; Zhu, DaobenCORPORATE SOURCE: Center for Molecular Science, Institute of  
Chemistry, Chinese Academy of Sciences,  
Beijing, 100080, Peop. Rep. ChinaSOURCE: Chemistry of Materials (2003), 15(10),  
1963-1969

CODEN: CMATEX; ISSN: 0897-4756

PUBLISHER: American Chemical Society

DOCUMENT TYPE: Journal

LANGUAGE: English

AB Conjugated copolymers having fluorene and binaphthyl moieties in the main chain and based on cyanostilbene were synthesized in good yields by a Pd-catalyzed Suzuki coupling reaction, a new approach different from the traditional Knoevenagel condensation polymerization. Through controllable modification of the main chain structures, not only were the thermal, electronic, and optical properties of the polymers tuned, but also the structure-property relations were studied. All these polymers possess excellent thermal stability with glass-transition temps. of 60-159° and onset decomposition temps. of 411-417°. Cyclic voltammetry studies reveal that these copolymers have low-lying LUMO energy levels ranging from -2.92 to -3.08 eV and low-lying HOMO energy levels ranging from -6.01 to -6.13 eV, and they may be promising candidates for electron-transporting or hole-blocking materials in **light-emitting diodes (LEDs)**. The polymers in thin films emit strong blue luminance around 457-489 nm with narrow bandwidth upon photoexcitation. The single-layer LED fabricated with a copolymer F-CN composed of fluorene and cyanostilbene units using an air-stable Al electrode emits blue **light** with an external quantum efficiency of 0.006%. A double-layer LED, fabricated using a blend of poly(N-vinylcarbazole) and F-CN as emitting layer and tris(8-hydroxyquinolinato)aluminum as electron transporting layer, shows an external quantum efficiency of 0.2%. Preliminary **electroluminescent** results show that these polymers are new candidates for blue emissive materials in polymeric LEDs.

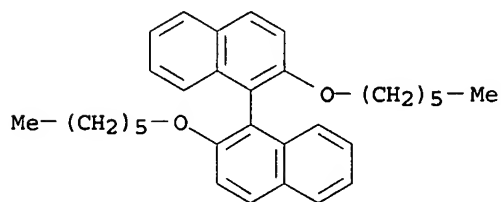
IT 199009-48-8 538349-13-2 538349-14-3

RL: RCT (Reactant); RACT (Reactant or reagent)

(blue-emitting and electron-transporting copolymers based on  
cyanostilbene synthesized using)

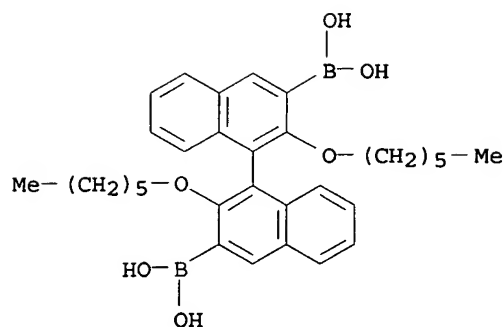
RN 199009-48-8 HCAPLUS

CN 1,1'-Binaphthalene, 2,2'-bis(hexyloxy)- (9CI) (CA INDEX NAME)



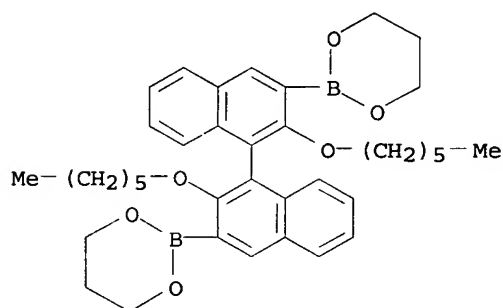
RN 538349-13-2 HCAPLUS

CN Boronic acid, [2,2'-bis(hexyloxy) [1,1'-binaphthalene]-3,3'-  
diyl]bis- (9CI) (CA INDEX NAME)



RN 538349-14-3 HCAPLUS

CN 1,3,2-Dioxaborinane, 2,2'-[2,2'-bis(hexyloxy)[1,1'-binaphthalene]-3,3'-diyl]bis- (9CI) (CA INDEX NAME)



CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)

Section cross-reference(s): 25, 35, 36, 72, 76, 77

ST cyanostilbene deriv copolymer LED; elec optical property; decompn cyanostilbene deriv copolymer LED; film cyanostilbene deriv copolymer LED; luminescence cyanostilbene deriv copolymer LED; hydroxyquinoline aluminum LED cyanostilbene deriv copolymer; thermogravimetry cyanostilbene deriv copolymer LED; DSC cyanostilbene deriv copolymer LED; **electroluminescence** cyanostilbene deriv copolymer LED; electron transport cyanostilbene deriv copolymer LED; thermal stability cyanostilbene deriv copolymer LED; cyclic voltammetry cyanostilbene deriv copolymer LED; IR spectra cyanostilbene deriv copolymer LED; NMR spectra cyanostilbene deriv copolymer LED; UV spectra cyanostilbene deriv copolymer LED; electrochem oxidn redn cyanostilbene deriv copolymer LED; Suzuki coupling reaction cyanostilbene deriv copolymer LED; glass transition temp cyanostilbene deriv copolymer LED; band gap cyanostilbene deriv copolymer LED; current voltage cyanostilbene deriv copolymer LED; electronic structure cyanostilbene deriv copolymer LED

IT Films

(blue-emitting and electron-transporting copolymers based on cyanostilbene in film **LEDs**)

IT Electric current-potential relationship

Luminescence, **electroluminescence**

(blue-emitting and electron-transporting copolymers based on cyanostilbene in film **LEDs** with)

IT **Electroluminescent** devices

(thin-film; blue-emitting and electron-transporting copolymers based on cyanostilbene in)

IT 412004-41-2  
 RL: DEV (Device component use); MOA (Modifier or additive use);  
 POF (Polymer in formulation); PRP (Properties); USES (Uses)  
 (blue-emitting and electron-transporting copolymers based on  
 cyanostilbene in film LEDs)

IT 538349-15-4P 538349-16-5P  
 RL: DEV (Device component use); PRP (Properties); SPN (Synthetic  
 preparation); PREP (Preparation); USES (Uses)  
 (blue-emitting and electron-transporting copolymers based on  
 cyanostilbene in film LEDs)

IT 25067-59-8, Poly(N-vinylcarbazole)  
 RL: DEV (Device component use); POF (Polymer in formulation); PRP  
 (Properties); USES (Uses)  
 (blue-emitting and electron-transporting copolymers based on  
 cyanostilbene in film LEDs as blend with)

IT 2085-33-8, Alq3  
 RL: DEV (Device component use); USES (Uses)  
 (blue-emitting and electron-transporting copolymers based on  
 cyanostilbene in film LEDs containing)

IT 109-72-8, n-Butyl lithium, reactions 121-43-7, Trimethoxyborane  
 504-63-2, 1,3-Dihydroxypropane 602-09-5, [1,1'-Binaphthalene]-  
 2,2'-diol 638-45-9, 1-Iodohexane 33731-82-7 171089-85-3  
 199009-48-8 241802-45-9 344782-49-6  
 538349-13-2 538349-14-3  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (blue-emitting and electron-transporting copolymers based on  
 cyanostilbene synthesized using)

REFERENCE COUNT: 62 THERE ARE 62 CITED REFERENCES AVAILABLE  
 FOR THIS RECORD. ALL CITATIONS AVAILABLE  
 IN THE RE FORMAT

L54 ANSWER 26 OF 51 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2003:262843 HCAPLUS

DOCUMENT NUMBER: 139:197246

TITLE: Substituent effect of binaphthyl-modified  
 spiro-type chiral phase-transfer catalysts

AUTHOR(S): Hashimoto, Takuya; Maruoka, Keiji

CORPORATE SOURCE: Graduate School of Science, Department of  
 Chemistry, Kyoto University, Kyoto, 606-8502,  
 Japan

SOURCE: Tetrahedron Letters (2003), 44(16), 3313-3316  
 CODEN: TELEAY; ISSN: 0040-4039

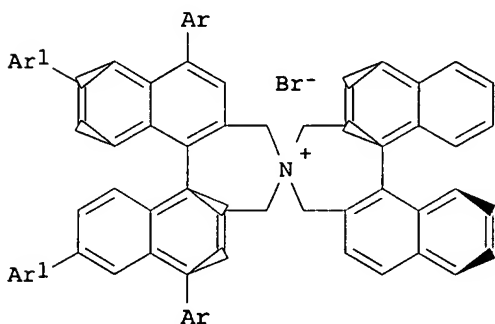
PUBLISHER: Elsevier Science Ltd.

DOCUMENT TYPE: Journal

LANGUAGE: English

OTHER SOURCE(S): CASREACT 139:197246

GI

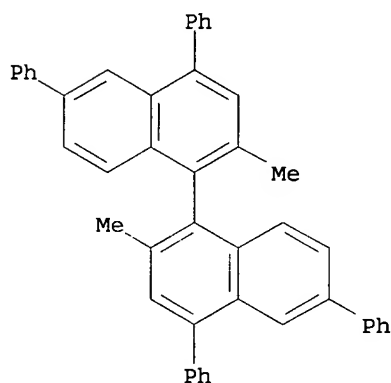


*Not  
electrochrom.*

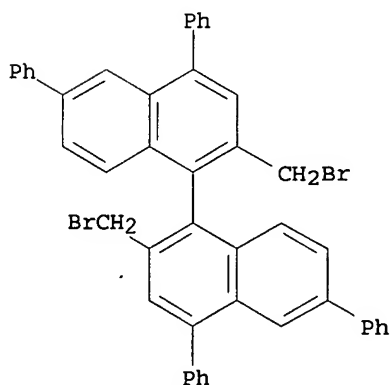
AB Binaphthyl-modified spiro-type phase-transfer catalysts possessing 4,4'-diaryl substituents are shown to exhibit high asym. induction in the benzylation of  $\text{Ph}_2\text{C:NCH}_2\text{CO}_2\text{Bu-t}$  under phase-transfer conditions. For example, spiro (diaryl)binaphthalene derivs. I-III (Ar = Ar1 = Ph; Ar = Ph, Ar1 = H; Ar = Ar1 = 3,5-diphenylphenyl) were prepared and used as chiral catalysts for the asym. alkylation of  $\text{Ph}_2\text{C:NCH}_2\text{CO}_2\text{Bu-t}$  with  $\text{RBr}$  (R = benzyl, allyl, methallyl, propargyl, 4-fluorobenzyl, 1-naphthylmethyl).

IT 583050-13-9P 583050-14-0P 583050-16-2P  
583050-17-3P 583050-20-8P 583050-21-9P  
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)  
(preparation of spiro binaphthyl derivs. as chiral phase-transfer catalysts for asym. alkylation of N-(diphenylmethylene)glycinate)

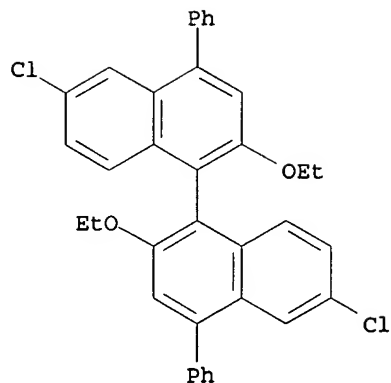
RN 583050-13-9 HCAPLUS  
CN 1,1'-Binaphthalene, 2,2'-dimethyl-4,4',6,6'-tetraphenyl-, (1S)-(9CI) (CA INDEX NAME)



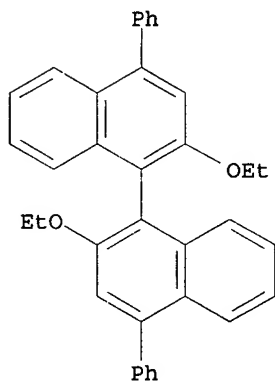
RN 583050-14-0 HCAPLUS  
CN 1,1'-Binaphthalene, 2,2'-bis(bromomethyl)-4,4',6,6'-tetraphenyl-, (1S)-(9CI) (CA INDEX NAME)



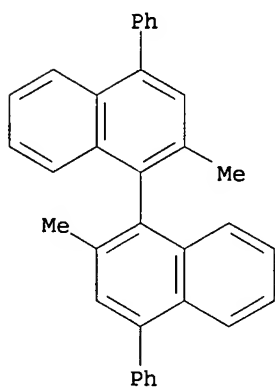
RN 583050-16-2 HCAPLUS  
CN 1,1'-Binaphthalene, 6,6'-dichloro-2,2'-diethoxy-4,4'-diphenyl-, (1S)-(9CI) (CA INDEX NAME)



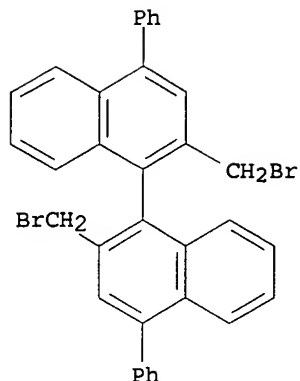
RN 583050-17-3 HCAPLUS  
CN 1,1'-Binaphthalene, 2,2'-diethoxy-4,4'-diphenyl-, (1S)- (9CI) (CA  
INDEX NAME)



RN 583050-20-8 HCAPLUS  
CN 1,1'-Binaphthalene, 2,2'-dimethyl-4,4'-diphenyl-, (1S)- (9CI) (CA  
INDEX NAME)



RN 583050-21-9 HCAPLUS  
CN 1,1'-Binaphthalene, 2,2'-bis(bromomethyl)-4,4'-diphenyl-, (1S)-  
(9CI) (CA INDEX NAME)



CC 25-24 (Benzene, Its Derivatives, and Condensed Benzenoid Compounds)

Section cross-reference(s): 34

IT 583050-12-8P 583050-13-9P 583050-14-0P  
583050-16-2P 583050-17-3P 583050-18-4P  
583050-19-5P 583050-20-8P 583050-21-9P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)

(preparation of spiro binaphthyl derivs. as chiral phase-transfer catalysts for asym. alkylation of N-(diphenylmethylene)glycinate)

REFERENCE COUNT: 19 THERE ARE 19 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L54 ANSWER 27 OF 51 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2003:116880 HCAPLUS

DOCUMENT NUMBER: 138:178005

TITLE: Aromatic heterocyclic derivatives and organic electroluminescent device using them

INVENTOR(S): Matsuura, Mitsunobu; Yamada, Taketoshi; Kita, Hiroshi

PATENT ASSIGNEE(S): Konica Co., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 38 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

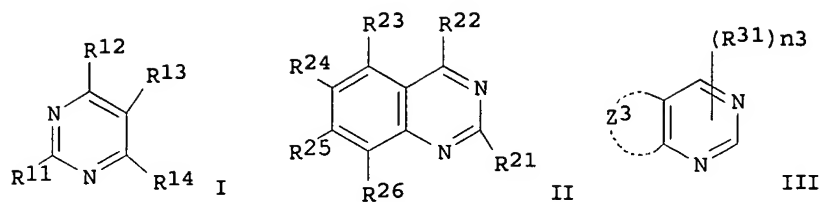
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2003045662	A2	20030214	JP 2001-233461	2001 0801

PRIORITY APPLN. INFO.: JP 2001-233461

2001  
0801

2001  
0801

OTHER SOURCE(S): MARPAT 138:178005  
GI



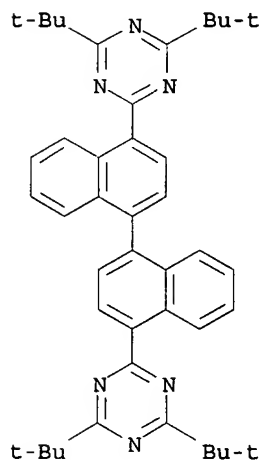
AB The invention relates to an organic **electroluminescent** device comprising a pair of **electrodes** sandwiching  $\geq 1$  layer(s) containing  $\geq 1$  of I, II, or III (R11-14 = H or monovalent substituent;  $\geq 1$  of R11-14 = aromatic hydrocarbonyl; R21-26 = H or monovalent substituent; R31 = H or monovalent substituent; n3 = 0 - 2; Z3 = 5-membered ring moiety).

IT 497097-41-3

RL: DEV (Device component use); USES (Uses)  
(novel aromatic heterocyclic derivs. for organic **electroluminescent** device)

RN 497097-41-3 HCAPLUS

CN 1,3,5-Triazine, 2,2'-[1,1'-binaphthalene]-4,4'-diylbis[4,6-bis(1,1-dimethylethyl)- (9CI) (CA INDEX NAME)



IC ICM H05B033-22

ICS C09K011-06; G09F009-30; H05B033-12; H05B033-14

CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)

Section cross-reference(s): 28

ST **electroluminescent** device arom heterocyclic deriv

IT **Electroluminescent** devices

(novel aromatic heterocyclic derivs. for)

IT 124729-98-2

RL: DEV (Device component use); USES (Uses)

(hole transporting; novel aromatic heterocyclic derivs. for organic **electroluminescent** device)

IT 4733-39-5 19205-19-7 142289-08-5 144810-07-1 405171-87-1

405173-85-5 497097-14-0 497097-15-1 497097-17-3

497097-19-5 497097-21-9 497097-23-1 497097-26-4

497097-28-6 497097-30-0 497097-32-2 497097-34-4

497097-36-6 497097-38-8 497097-40-2 **497097-41-3**

497097-42-4 497097-43-5 497097-44-6 497097-45-7

497097-46-8



RL: DEV (Device component use); USES (Uses)  
(novel aromatic heterocyclic derivs. for organic  
electroluminescent device)

L54 ANSWER 28 OF 51 HCAPLUS COPYRIGHT 2006 ACS on STN  
ACCESSION NUMBER: 2003:68570 HCAPLUS  
DOCUMENT NUMBER: 138:129100  
TITLE: Binaphthyl compounds for hole-transporting  
layers, their manufacture, and organic  
electroluminescent devices with the  
layers  
INVENTOR(S): Takeuchi, Masako; Sato, Yoshiharu  
PATENT ASSIGNEE(S): Mitsubishi Chemical Corp., Japan  
SOURCE: Jpn. Kokai Tokkyo Koho, 20 pp.  
CODEN: JKXXAF  
DOCUMENT TYPE: Patent  
LANGUAGE: Japanese  
FAMILY ACC. NUM. COUNT: 1  
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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JP 2003026641	A2	20030129	JP 2001-213993	2001 0713
PRIORITY APPLN. INFO.: JP 2001-213993				2001 0713

OTHER SOURCE(S): MARPAT 138:129100

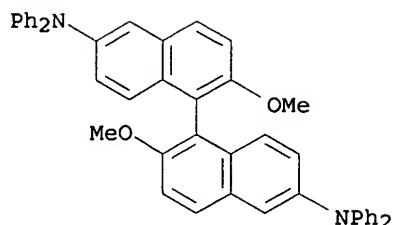
AB The binaphthyl compds. are represented by binaphthyl [Ar1-Ar4 = monocyclic group or condensed ring group of (substituted) 5- or 6-membered aromatic hydrocarbon ring or aromatic heterocyclic ring; Ar1 and Ar2, or Ar3 and Ar4; m, n = 0-4 integer; m + n ≥ 1; the naphthalene ring may have other substituents]. The substituents NAr1Ar2 and NAr3Ar4 are introduced to I by replacing halogen substituents on the binaphthyl backbones with aromatic amine derivs. or by replacing NH2 substituents on the binaphthyl backbones with aromatic halides. The organic electroluminescent (EL) devices have layers involving I between anodes and cathodes and optionally luminescent layers between the cathodes and. The organic electroluminescent (EL) devices involve laminate of anodes, hole-transporting layers containing I, luminescent layers, and cathodes. The EL device have improved heat resistance, can be operated by low driving voltage, and show stable luminescent property.

IT 491610-58-3P

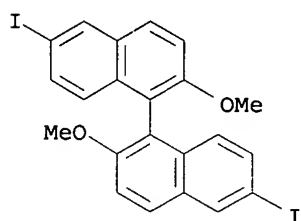
RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
(manufacture of binaphthyl compds. for heat-resistant hole-transporting layers of organic EL devices)

RN 491610-58-3 HCAPLUS

CN [1,1'-Binaphthalene]-6,6'-diamine, 2,2'-dimethoxy-N,N',N'-tetraphenyl- (9CI) (CA INDEX NAME)



IT 491610-62-9  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (reactant for manufacture of binaphthyl compds. for heat-resistant  
 hole-transporting layers of organic EL devices)  
 RN 491610-62-9 HCAPLUS  
 CN 1,1'-Binaphthalene, 6,6'-diido-2,2'-dimethoxy- (9CI) (CA INDEX  
 NAME)



IC ICM C07C217-94  
 ICS C07C213-02; H05B033-14; H05B033-22  
 CC 74-13 (Radiation Chemistry, Photochemistry, and Photographic and  
 Other Reprographic Processes)  
 Section cross-reference(s): 25  
 ST org electroluminescent device binaphthyl hole  
 transporting layer  
 IT Electroluminescent devices  
 (manufacture of binaphthyl compds. for heat-resistant  
 hole-transporting layers of organic EL devices)  
 IT 517-51-1, Rubren  
 RL: MOA (Modifier or additive use); TEM (Technical or engineered  
 material use); USES (Uses)  
 (luminescent layer containing; manufacture of binaphthyl compds. for  
 heat-resistant hole-transporting layers of organic EL  
 devices)  
 IT 2085-33-8, Alq3  
 RL: TEM (Technical or engineered material use); USES (Uses)  
 (luminescent layer; manufacture of binaphthyl compds. for  
 heat-resistant hole-transporting layers of organic EL  
 devices)  
 IT 491610-58-3P  
 RL: IMF (Industrial manufacture); TEM (Technical or engineered  
 material use); PREP (Preparation); USES (Uses)  
 (manufacture of binaphthyl compds. for heat-resistant  
 hole-transporting layers of organic EL devices)  
 IT 122-39-4, Diphenylamine, reactions 491610-62-9  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (reactant for manufacture of binaphthyl compds. for heat-resistant  
 hole-transporting layers of organic EL devices)

L54 ANSWER 29 OF 51 HCAPLUS COPYRIGHT 2006 ACS on STN  
 ACCESSION NUMBER: 2002:900820 HCAPLUS  
 DOCUMENT NUMBER: 137:390864

TITLE: Electroluminescent devices with good storage stability and brightness, and compounds having multiple purine structures for them

INVENTOR(S): Kimura, Keizo

PATENT ASSIGNEE(S): Fuji Photo Film Co., Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 44 pp.  
CODEN: JKXXAF

DOCUMENT TYPE: Patent

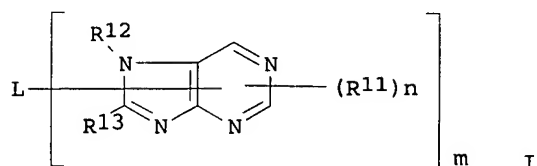
LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2002338579	A2	20021127	JP 2001-325594	2001 1023
US 2003072965	A1	20030417	US 2002-97607	2002 0315
US 6780529	B2	20040824		
PRIORITY APPLN. INFO.:			JP 2001-76704	A 2001 0316
			JP 2001-325594	A 2001 1023

OTHER SOURCE(S): MARPAT 137:390864  
GI

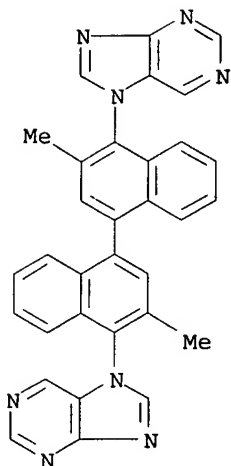


AB The device contains purine-based compds. I (R11 = substituent; R12 = H, aliphatic hydrocarbyl, aryl, hetero ring group; R13 = H, substituent; L = single bond, linking group; n = 0-2; m ≥ 2) in light-emitting layers.

IT 476169-83-2  
RL: DEV (Device component use); USES (Uses)  
(electroluminescent devices with good storage stability and brightness containing hetero compds. having multiple purine structures)

RN 476169-83-2 HCAPLUS

CN 7H-Purine, 7,7'-(3,3'-dimethyl[1,1'-binaphthalene]-4,4'-diyl)bis-  
(9CI) (CA INDEX NAME)



IC ICM C07D519-00  
ICS C09K011-06; H05B033-14; H05B033-22

CC 73-11 (Optical, Electron, and Mass Spectroscopy and  
Other Related Properties)  
Section cross-reference(s): 28

ST purine charge transfer **electroluminescent** device;  
storage stability EL device purine host

IT **Electroluminescent** devices  
(**electroluminescent** devices with good storage  
stability and brightness containing hetero compds. having multiple  
purine structures)

IT 476169-79-6 476169-80-9 476169-81-0 476169-82-1  
476169-83-2 476169-84-3 476169-85-4 476169-86-5  
476169-87-6 476169-88-7 476169-89-8 476169-90-1  
RL: DEV (Device component use); USES (Uses)  
(**electroluminescent** devices with good storage  
stability and brightness containing hetero compds. having multiple  
purine structures)

IT 476169-66-1P 476169-68-3P 476169-70-7P 476169-72-9P  
476169-74-1P 476169-76-3P 476169-77-4P 476169-78-5P  
RL: DEV (Device component use); IMF (Industrial manufacture); PREP  
(Preparation); USES (Uses)  
(**electroluminescent** devices with good storage  
stability and brightness containing hetero compds. having multiple  
purine structures)

IT 1454-80-4P, [1,1'-Biphenyl]-2,2'-diamine 2346-74-9P  
34890-62-5P 476169-67-2P 476169-69-4P 476169-71-8P  
476169-73-0P 476169-75-2P  
RL: IMF (Industrial manufacture); RCT (Reactant); PREP  
(Preparation); RACT (Reactant or reagent)  
(**electroluminescent** devices with good storage  
stability and brightness containing hetero compds. having multiple  
purine structures)

IT 80-05-7, Bisphenol A, reactions 87-42-3 95-80-7 106-50-3,  
1,4-Diaminobenzene, reactions 107-14-2, Chloroacetonitrile  
108-72-5, 1,3,5-Triaminobenzene 590-17-0, Bromoacetonitrile  
615-71-4, 1,2,4-Triaminobenzene 2436-96-6 2716-10-1  
3473-63-0, Formamidine acetate 27610-62-4 365564-05-2  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(**electroluminescent** devices with good storage  
stability and brightness containing hetero compds. having multiple  
purine structures)

L54 ANSWER 30 OF 51 HCAPLUS COPYRIGHT 2006 ACS on STN  
ACCESSION NUMBER: 2002:848337 HCAPLUS

DOCUMENT NUMBER: 137:343728  
 TITLE: Organic **electroluminescent** element,  
 luminescent light source, lighting device,  
 display device and method  
 INVENTOR(S): Suzurizato, Yoshiyuki; Genta, Kazuo; Oshiyama,  
 Tomohiro; Ueda, Noriko; Kita, Hiroshi  
 PATENT ASSIGNEE(S): Konica Co., Japan  
 SOURCE: Jpn. Kokai Tokkyo Koho, 42 pp.  
 CODEN: JKXXAF  
 DOCUMENT TYPE: Patent  
 LANGUAGE: Japanese  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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JP 2002324676	A2	20021108	JP 2001-129284	2001 0426
PRIORITY APPLN. INFO.:			JP 2001-129284	2001 0426

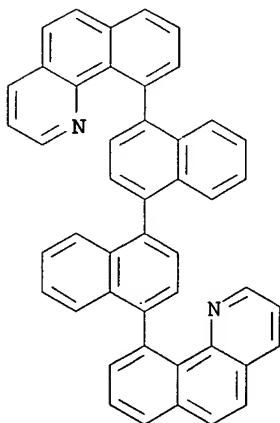
AB The invention refers to a **electroluminescent** component comprising an organic layer with a luminescent layer and a adjacent layer, wherein the maximum luminescent wavelength of each of the two layers is  $\leq 415$  nm, for a low energy, flexible, high-luminescence device.

IT 474304-10-4

RL: DEV (Device component use); USES (Uses)  
 (organic **electroluminescent** element,  
 luminescent light source, lighting device, display  
 device and method)

RN 474304-10-4 HCAPLUS

CN Benzo[h]quinoline, 10,10'-[1,1'-binaphthalene]-4,4'-diylbis- (9CI)  
 (CA INDEX NAME)



IC ICM H05B033-14

ICS C09K011-06; G09F009-30; H05B033-02; H05B033-12; H05B033-22

CC 73-11 (Optical, Electron, and Mass Spectroscopy and  
 Other Related Properties)

ST **electroluminescent** device light source imaging device

IT **Electroluminescent** devices

Optical imaging devices

(organic **electroluminescent** element,

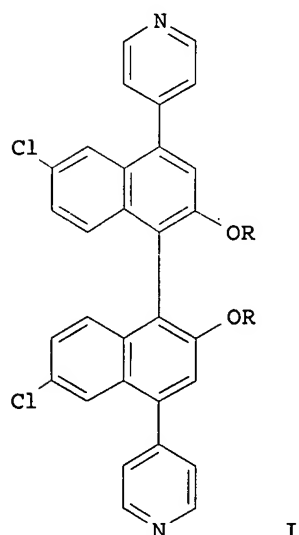
luminescent light source, lighting device, display device and method)

IT 2085-33-8, Aluminum tris(8-hydroxyquinolinato) 4733-39-5, 2,9-Dimethyl-4,7-Diphenyl 1,10-phenanthroline 12254-04-5, Aluminum barium magnesium oxide Al10BaMgO17 13778-49-9, Barium silicate Ba2SiO4 65181-79-5 124729-98-2, MTDATA 405171-87-1 405173-85-5 474304-09-1 **474304-10-4** 474304-11-5 474304-12-6, Germanium magnesium oxide (GeMg4O5.5)

RL: DEV (Device component use); USES (Uses)  
(organic electroluminescent element, luminescent light source, lighting device, display device and method)

IT 16910-54-6, Europium 2+, uses 19768-33-3, Manganese 4+, uses  
RL: DEV (Device component use); MOA (Modifier or additive use); USES (Uses)  
(organic electroluminescent element, luminescent light source, lighting device, display device and method)

L54 ANSWER 31 OF 51 HCAPLUS COPYRIGHT 2006 ACS on STN  
ACCESSION NUMBER: 2002:259503 HCAPLUS  
DOCUMENT NUMBER: 136:410640  
TITLE: A Chiral Molecular Square with Metallo-Corners for Enantioselective Sensing  
AUTHOR(S): Lee, Suk Joong; Lin, Wenbin  
CORPORATE SOURCE: Department of Chemistry, University of North Carolina, Chapel Hill, NC, 27599, USA  
SOURCE: Journal of the American Chemical Society (2002), 124(17), 4554-4555  
CODEN: JACSAT; ISSN: 0002-7863  
PUBLISHER: American Chemical Society  
DOCUMENT TYPE: Journal  
LANGUAGE: English  
OTHER SOURCE(S): CASREACT 136:410640  
GI



AB A family of chiral mol. squares based on fac-Re(CO)3Cl metallocorners and enantiopure atropisomeric bipyridine bridging ligands (I; R = Et, SiMe2tBu, CH2Ph, H), [Re(CO)3Cl(I)]4, were synthesized in high yields by refluxing ClRe(CO)5 and I in 1:1 molar ratio. These novel chiral metallocycles were characterized

by  $^1\text{H}$  and  $^{13}\text{C}\{^1\text{H}\}$  NMR, UV-visible, luminescence, and CD spectroscopies, FAB mass spectrometry, and microanal. Mol. square  $[\text{Re}(\text{CO})_3\text{Cl}(\text{I})]_4$  ( $\text{R} = \text{H}$ ) 4 which contains four 1,1'-bi-2-naphthol functionalities exhibits interesting enantioselective luminescence quenching by 2-amino-1-propanol. This research illustrates the potential of generating novel functional materials based on supramol. chemical

IT 431043-34-4P 431043-35-5P 431043-36-6P

431043-37-7P 431043-38-8P 431043-39-9P

431043-40-2P 431043-41-3P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP

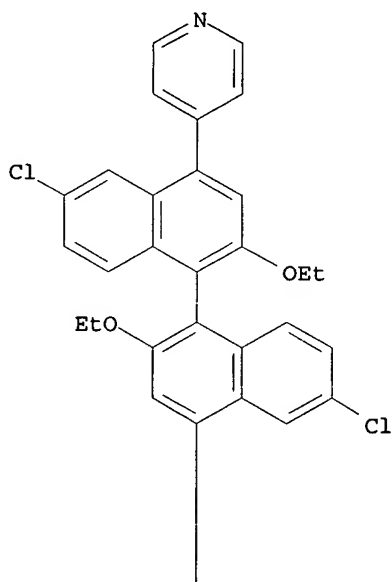
(Preparation); RACT (Reactant or reagent)

(preparation and complexation with rhenium)

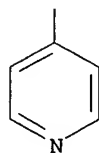
RN 431043-34-4 HCAPLUS

CN Pyridine, 4,4'-[(1R)-6,6'-dichloro-2,2'-diethoxy[1,1'-binaphthalene]-4,4'-diyl]bis- (9CI) (CA INDEX NAME)

PAGE 1-A



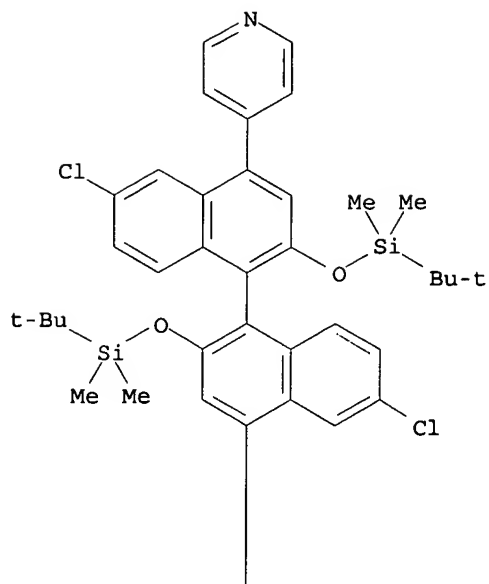
PAGE 2-A



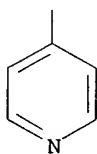
RN 431043-35-5 HCAPLUS

CN Pyridine, 4,4'-[(1R)-6,6'-dichloro-2,2'-bis[[(1,1'-dimethylethyl)dimethylsilyl]oxy][1,1'-binaphthalene]-4,4'-diyl]bis- (9CI) (CA INDEX NAME)

PAGE 1-A



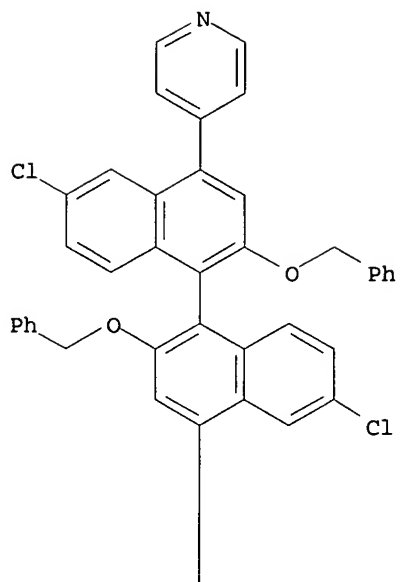
PAGE 2-A



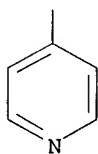
RN 431043-36-6 HCAPLUS  
CN Pyridine, 4,4'-[(1R)-6,6'-dichloro-2,2'-bis(phenylmethoxy) [1,1'-binaphthalene]-4,4'-diyl]bis- (9CI) (CA INDEX NAME)



PAGE 1-A

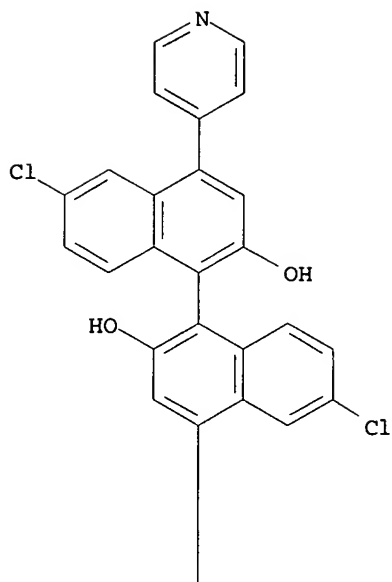


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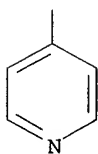


RN 431043-37-7 HCAPLUS  
CN [1,1'-Binaphthalene]-2,2'-diol, 6,6'-dichloro-4,4'-di-4-pyridinyl-  
, (1R)-(9CI) (CA INDEX NAME)

PAGE 1-A

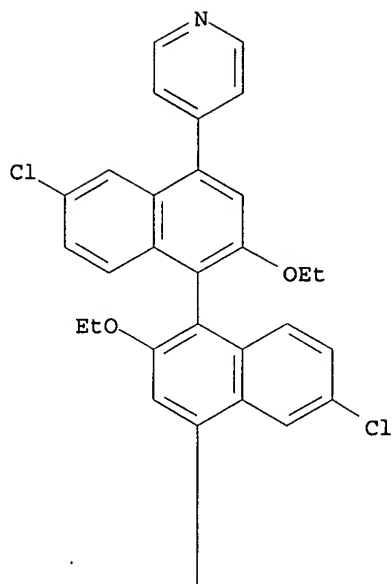


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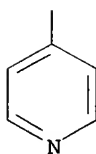


RN 431043-38-8 HCAPLUS  
CN Pyridine, 4,4'-[(1S)-6,6'-dichloro-2,2'-diethoxy[1,1'-  
binaphthalene]-4,4'-diyl]bis- (9CI) (CA INDEX NAME)

PAGE 1-A

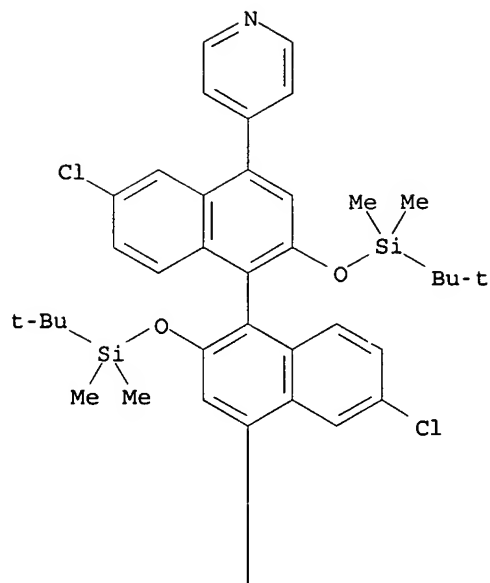


PAGE 2-A

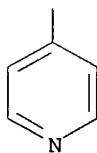


RN 431043-39-9 HCAPLUS  
CN Pyridine, 4,4'-[(1S)-6,6'-dichloro-2,2'-bis[[[1,1-dimethylethyl)dimethylsilyl]oxy][1,1'-binaphthalene]-4,4'-diyl]bis-(9CI) (CA INDEX NAME)

PAGE 1-A

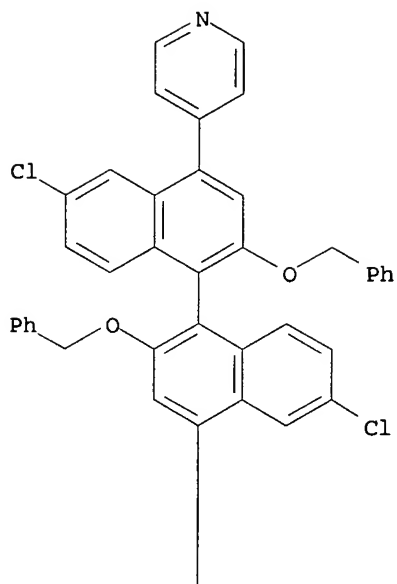


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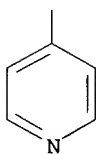


RN 431043-40-2 HCAPLUS  
CN Pyridine, 4,4'-[(1S)-6,6'-dichloro-2,2'-bis(phenylmethoxy) [1,1'-binaphthalene]-4,4'-diyl]bis- (9CI) (CA INDEX NAME)

PAGE 1-A

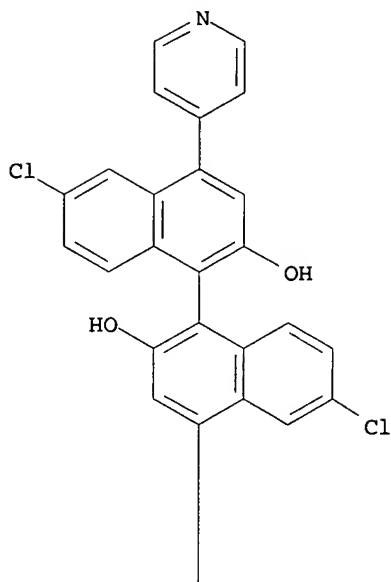


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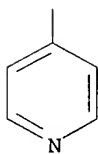


RN 431043-41-3 HCAPLUS  
CN [1,1'-Binaphthalene]-2,2'-diol, 6,6'-dichloro-4,4'-di-4-pyridinyl-, (1S)- (9CI) (CA INDEX NAME)

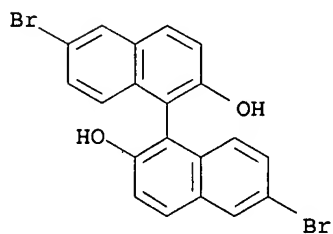
PAGE 1-A



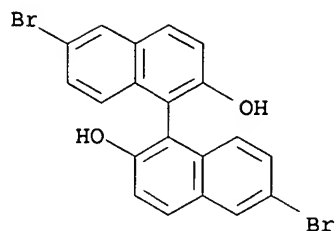
PAGE 2-A



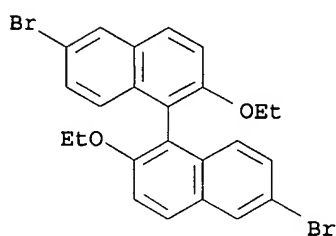
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 264149-61-3P 431043-50-4P 431043-53-7P  
 431043-56-0P 431043-59-3P  
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP  
 (Preparation); RACT (Reactant or reagent)  
 (preparation and reactant for preparation of rhenium carbonyl  
 dipyridylbinaphthol derivative tetranuclear complexes)  
 RN 65283-60-5 HCAPLUS  
 CN [1,1'-Binaphthalene]-2,2'-diol, 6,6'-dibromo-, (1R)- (9CI) (CA  
 INDEX NAME)



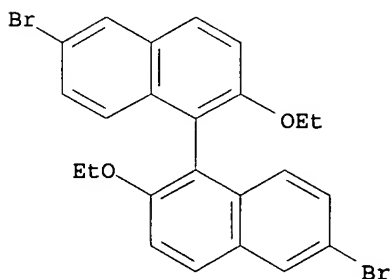
RN 80655-81-8 HCAPLUS  
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 INDEX NAME)



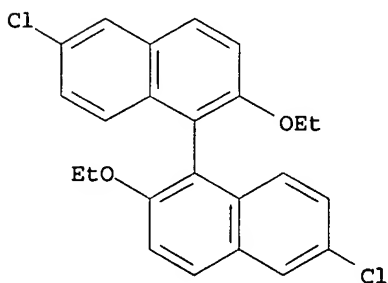
RN 180135-88-0 HCAPLUS  
CN 1,1'-Binaphthalene, 6,6'-dibromo-2,2'-diethoxy-, (1S)- (9CI) (CA  
INDEX NAME)



RN 264149-61-3 HCAPLUS  
CN 1,1'-Binaphthalene, 6,6'-dibromo-2,2'-diethoxy-, (1R)- (9CI) (CA  
INDEX NAME)

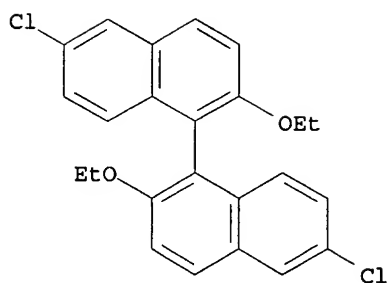


RN 431043-50-4 HCAPLUS  
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INDEX NAME)

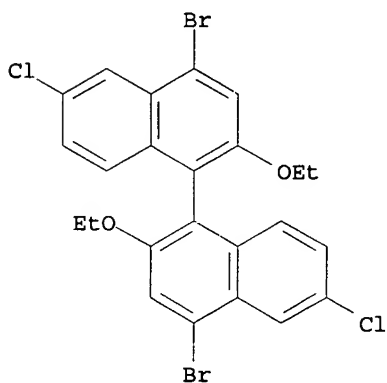


RN 431043-53-7 HCAPLUS  
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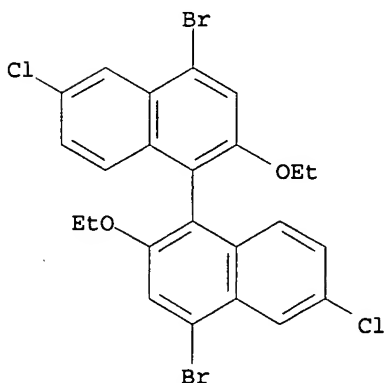
INDEX NAME)



RN 431043-56-0 HCAPLUS  
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 (1R)- (9CI) (CA INDEX NAME)



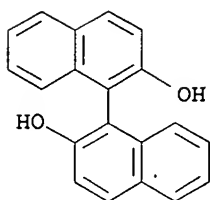
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 (1S)- (9CI) (CA INDEX NAME)



IT 18531-94-7 18531-99-2 431043-61-7  
 431043-64-0 431043-67-3 431043-69-5  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (reactant for preparation of rhenium carbonyl dipyridylbinaphthol  
 derivative tetranuclear complexes)  
 RN 18531-94-7 HCAPLUS

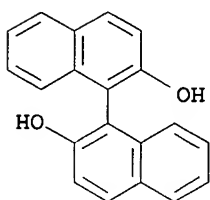


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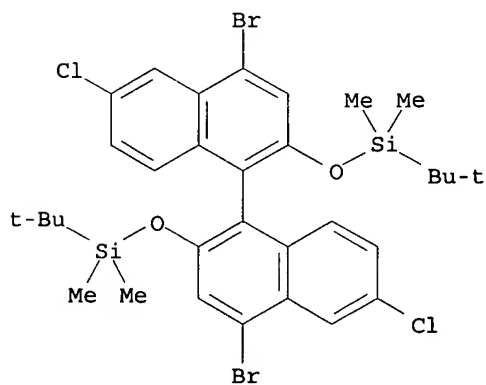
RN 18531-99-2 HCAPLUS

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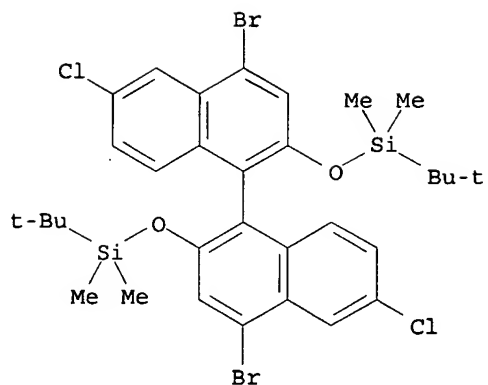
RN 431043-61-7 HCAPLUS

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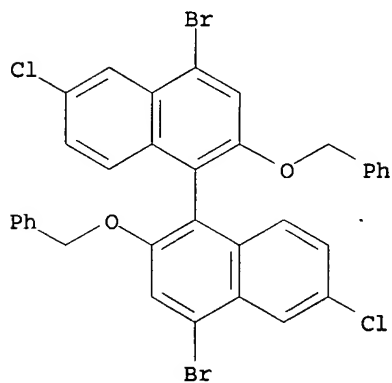


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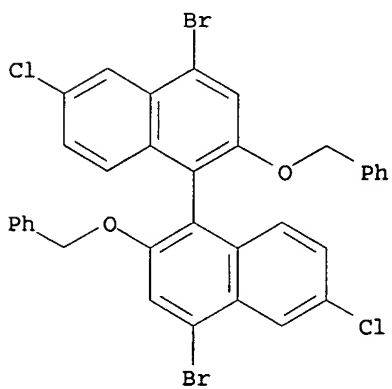
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RN 431043-67-3 HCAPLUS  
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RN 431043-69-5 HCAPLUS  
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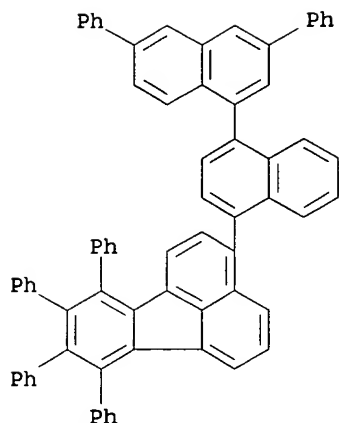
CC 78-7 (Inorganic Chemicals and Reactions)  
 Section cross-reference(s): 27, 73  
 IT 431043-34-4P 431043-35-5P 431043-36-6P  
 431043-37-7P 431043-38-8P 431043-39-9P

431043-40-2P 431043-41-3P  
RL: RCT (Reactant); SPN (Synthetic preparation); PREP  
(Preparation); RACT (Reactant or reagent)  
(preparation and complexation with rhenium)  
IT 65283-60-5P 80655-81-8P 180135-88-0P  
264149-61-3P 431043-50-4P 431043-53-7P  
431043-56-0P 431043-59-3P  
RL: RCT (Reactant); SPN (Synthetic preparation); PREP  
(Preparation); RACT (Reactant or reagent)  
(preparation and reactant for preparation of rhenium carbonyl  
dipyridylbinaphthol derivative tetranuclear complexes)  
IT 74-96-4, Ethyl bromide 14099-01-5, Pentacarbonylchlororhenium  
18531-94-7 18531-99-2 59020-06-3,  
4-Pyridyltrimethylstannane 431043-61-7  
431043-64-0 431043-67-3 431043-69-5  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(reactant for preparation of rhenium carbonyl dipyridylbinaphthol  
derivative tetranuclear complexes)  
REFERENCE COUNT: 30 THERE ARE 30 CITED REFERENCES AVAILABLE  
FOR THIS RECORD. ALL CITATIONS AVAILABLE  
IN THE RE FORMAT

L54 ANSWER 32 OF 51 HCAPLUS COPYRIGHT 2006 ACS on STN  
ACCESSION NUMBER: 2002:238119 HCAPLUS  
DOCUMENT NUMBER: 136:286301  
TITLE: Dibenzofluorenopentaphene derivatives and  
organic electroluminescent devices  
using them  
INVENTOR(S): Ishida, Tsutomu; Shimamura, Takehiko;  
Nakatsuka, Masakatsu  
PATENT ASSIGNEE(S): Mitsui Chemicals Inc., Japan  
SOURCE: Jpn. Kokai Tokkyo Koho, 47 pp.  
CODEN: JKXXAF  
DOCUMENT TYPE: Patent  
LANGUAGE: Japanese  
FAMILY ACC. NUM. COUNT: 1  
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
----- ----- JP 2002093580	----- ----- A2	----- ----- 20020329	----- ----- JP 2000-221974	2000 0724
PRIORITY APPLN. INFO.:			JP 2000-209225	A 2000 0711

OTHER SOURCE(S): MARPAT 136:286301  
AB The invention relates to an organic electroluminescent  
device comprising a pair of electrodes sandwiching  
≥1 layer(s) containing ≥1 dibenzo[kl,rst]  
fluoreno[9,1,2-cde]pentaphene derivs.  
IT 405508-28-3  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(3novel dibenzofluorenopentaphene derivs. for organic  
electroluminescent devices)  
RN 405508-28-3 HCAPLUS  
CN Fluoranthene, 3-(3',6'-diphenyl[1,1'-binaphthalen]-4-yl)-7,8,9,10-  
tetraphenyl- (9CI) (CA INDEX NAME)

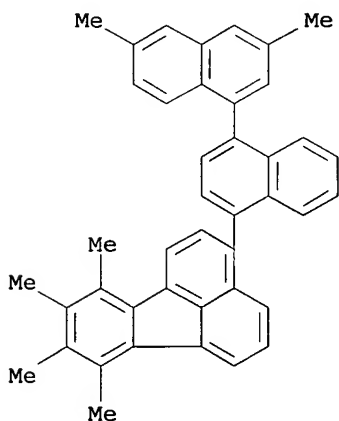


IT 405508-05-6

RL: RCT (Reactant); RACT (Reactant or reagent)  
 (9 novel dibenzofluorenopentaphene derivs. for organic  
 electroluminescent devices)

RN 405508-05-6 HCAPLUS

CN Fluoranthene, 3-(3',6'-dimethyl[1,1'-binaphthalen]-4-yl)-7,8,9,10-  
 tetramethyl- (9CI) (CA INDEX NAME)



IT 405507-97-3 405507-99-5 405508-01-2

405508-03-4 405508-04-5 405508-06-7

405508-07-8 405508-08-9 405508-09-0

405508-10-3 405508-11-4 405508-12-5

405508-13-6 405508-14-7 405508-15-8

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405508-22-7 405508-23-8 405508-24-9

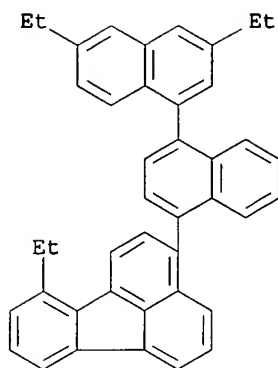
405508-25-0 405508-26-1 405508-27-2

405508-29-4 405508-30-7 405508-31-8

RL: RCT (Reactant); RACT (Reactant or reagent)  
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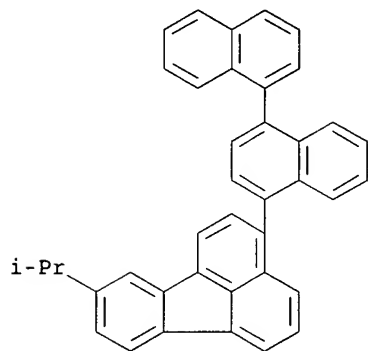
RN 405507-97-3 HCAPLUS

CN Fluoranthene, 3-(3',6'-diethyl[1,1'-binaphthalen]-4-yl)-10-ethyl-  
 (9CI) (CA INDEX NAME)



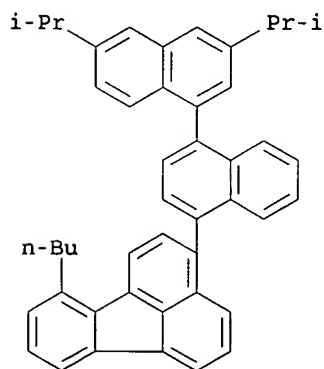
RN 405507-99-5 HCAPLUS

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(CA INDEX NAME)



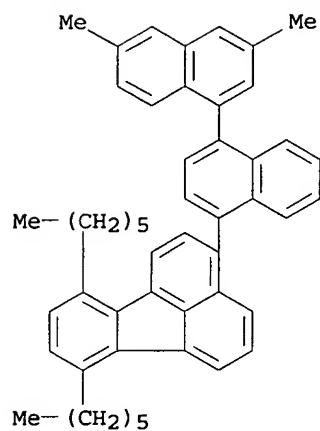
RN 405508-01-2 HCAPLUS

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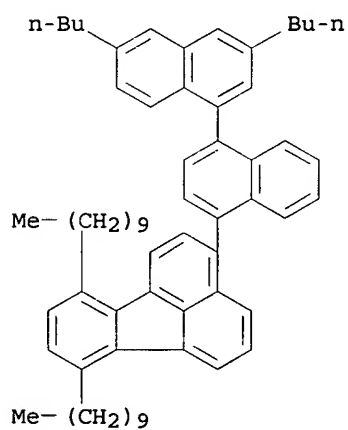
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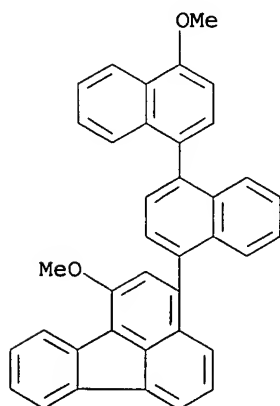
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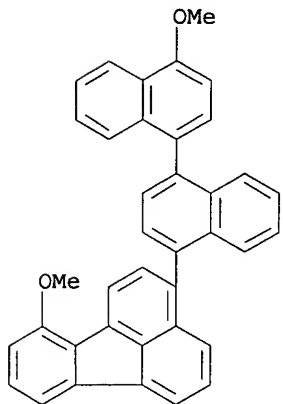


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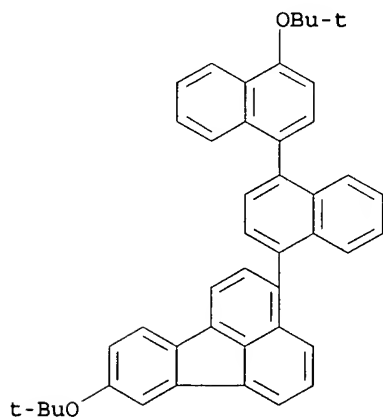
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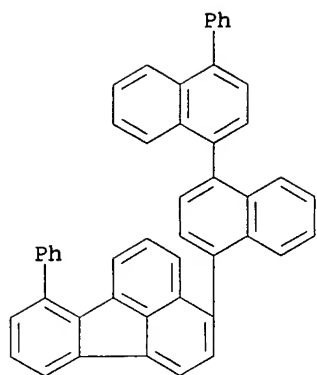
RN 405508-07-8 HCAPLUS  
CN Fluoranthene, 10-methoxy-3-(4'-methoxy[1,1'-binaphthalen]-4-yl)-  
(9CI) (CA INDEX NAME)



RN 405508-08-9 HCAPLUS  
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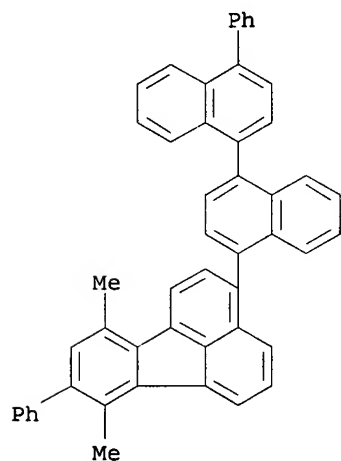


RN 405508-09-0 HCAPLUS  
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(9CI) (CA INDEX NAME)



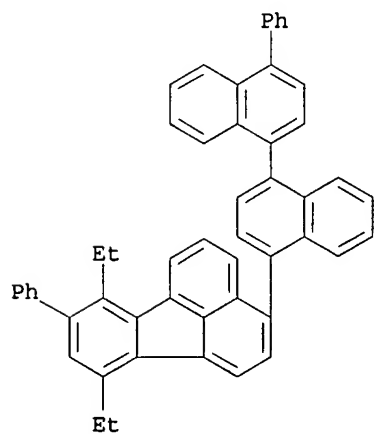
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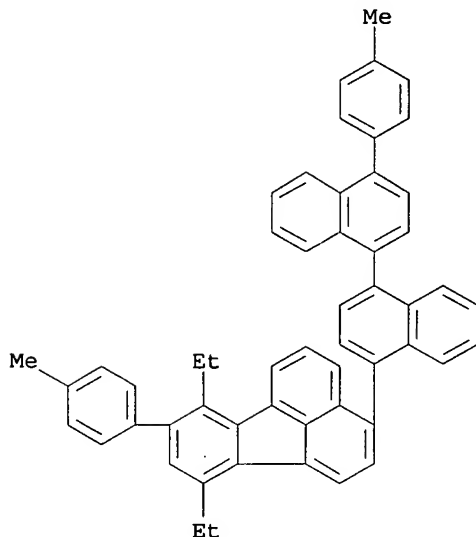
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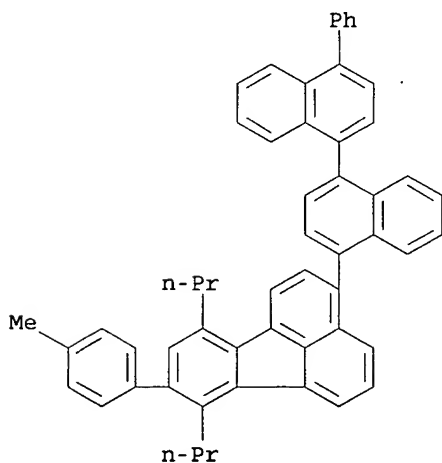




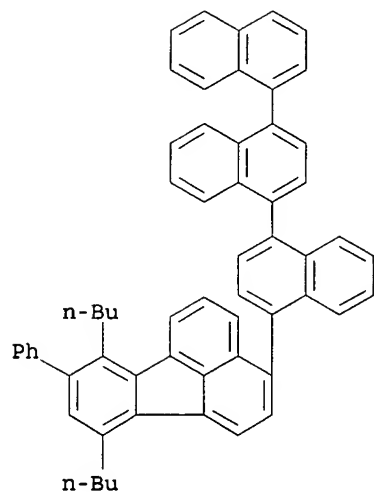
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 CN Fluoranthene, 7,10-diethyl-8-(4-methylphenyl)-3-[4'-(4-methylphenyl)[1,1'-binaphthalen]-4-yl]- (9CI) (CA INDEX NAME)



RN 405508-13-6 HCAPLUS  
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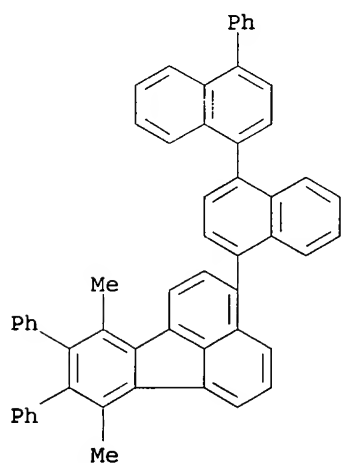


RN 405508-14-7 HCAPLUS  
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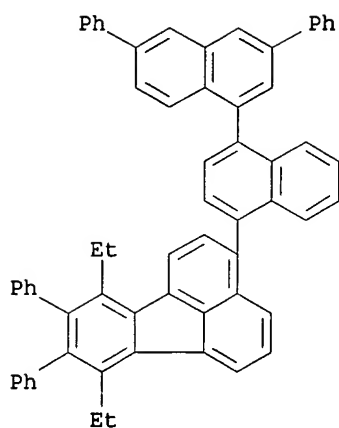
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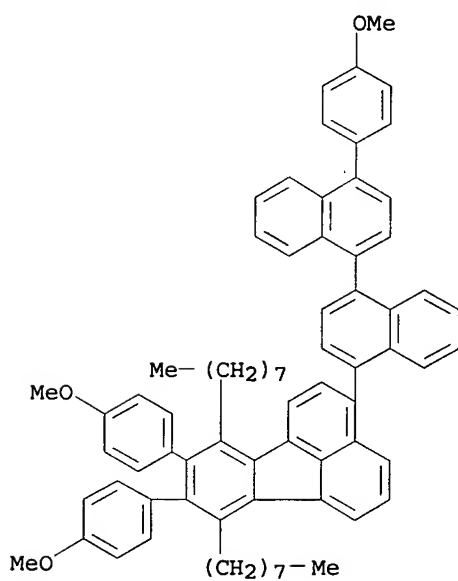


RN 405508-16-9 HCAPLUS

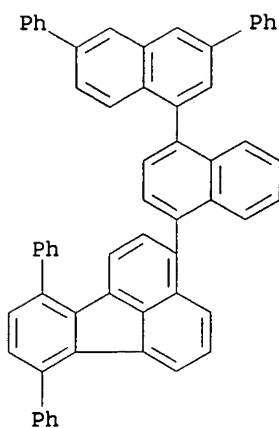
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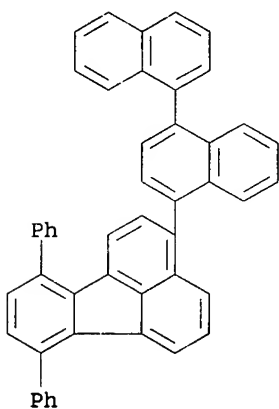
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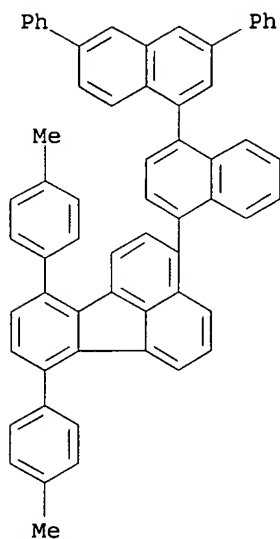
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RN 405508-19-2 HCAPLUS  
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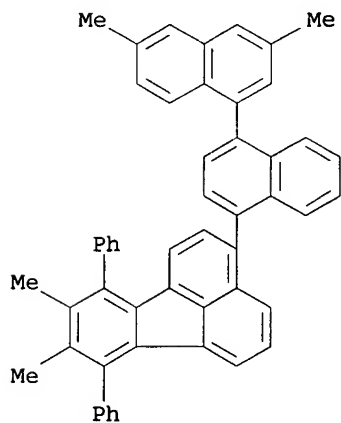


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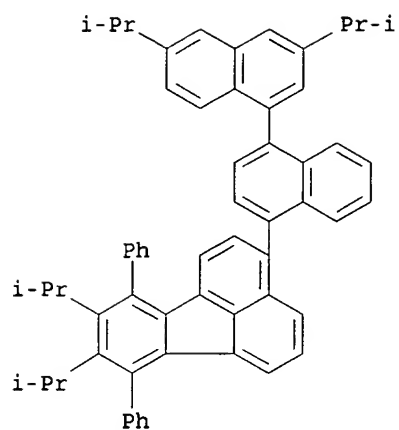
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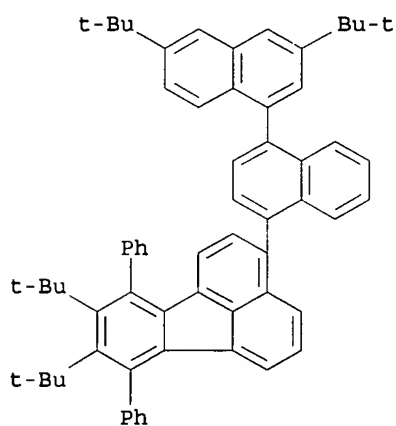


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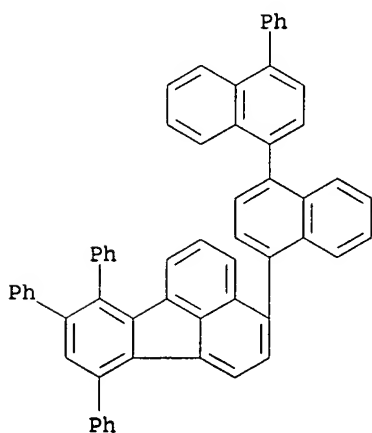
CN Fluoranthene, 3-[3',6'-bis(1-methylethyl)[1,1'-binaphthalen]-4-yl]-8,9-bis(1-methylethyl)-7,10-diphenyl- (9CI) (CA INDEX NAME)



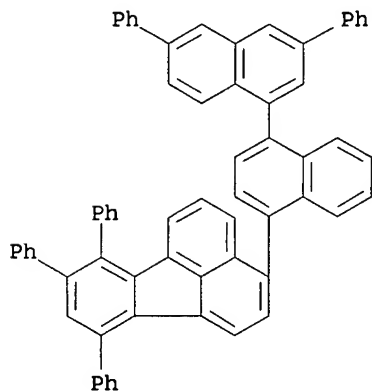
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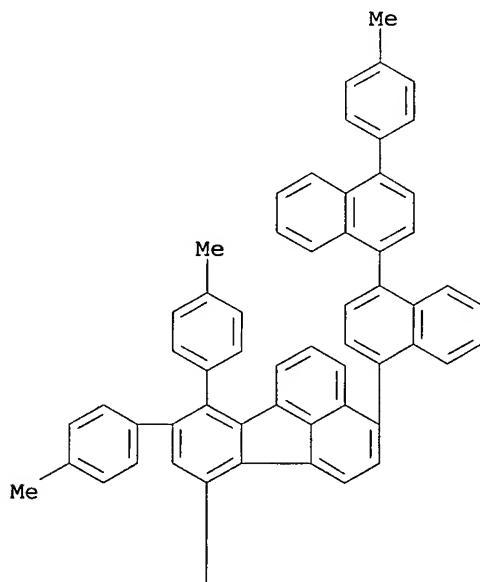
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 CN Fluoranthene, 7,8,10-triphenyl-3-(4'-phenyl[1,1'-binaphthalen]-4-yl)- (9CI) (CA INDEX NAME)



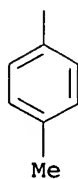
RN 405508-25-0 HCAPLUS  
CN Fluoranthene, 3-(3',6'-diphenyl[1,1'-binaphthalen]-4-yl)-7,8,10-triphenyl- (9CI) (CA INDEX NAME)



RN 405508-26-1 HCAPLUS  
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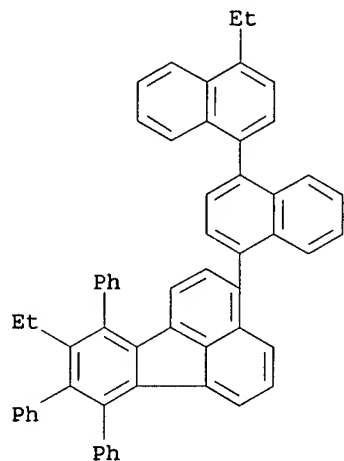


PAGE 1-A

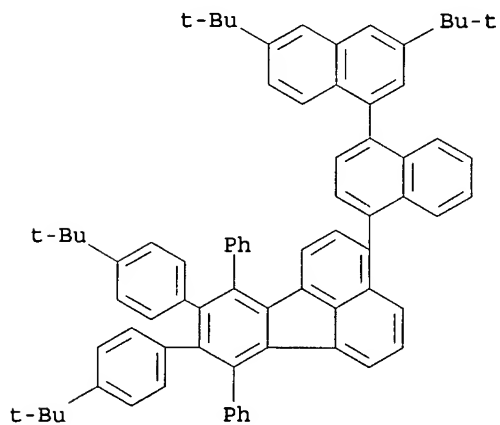


PAGE 2-A

RN 405508-27-2 HCAPLUS  
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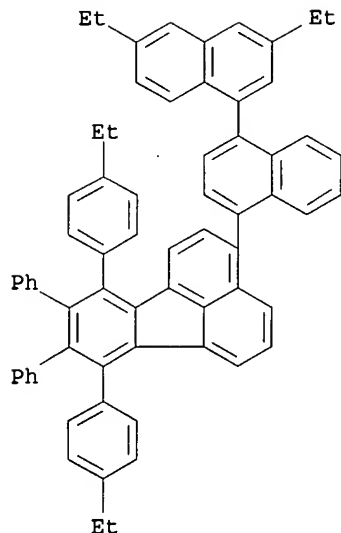


RN 405508-29-4 HCAPLUS  
CN Fluoranthene, 3-[3',6'-bis(1,1-dimethylethyl)[1,1'-binaphthalen]-4-yl]-8,9-bis[4-(1,1-dimethylethyl)phenyl]-7,10-diphenyl- (9CI) (CA INDEX NAME)

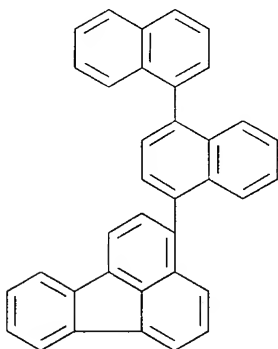


RN 405508-30-7 HCAPLUS  
CN Fluoranthene, 3-(3',6'-diethyl[1,1'-binaphthalen]-4-yl)-7,10-bis(4-ethylphenyl)-8,9-diphenyl- (9CI) (CA INDEX NAME)





RN 405508-31-8 HCAPLUS  
 CN Fluoranthene, 3-[1,1'-binaphthalen]-4-yl- (9CI) (CA INDEX NAME)



IC ICM H05B033-14  
 ICS C07C013-62; C07C025-22; C07C043-21; C09K011-06  
 CC 73-11 (Optical, Electron, and Mass Spectroscopy and  
 Other Related Properties)  
 Section cross-reference(s): 25  
 ST Dibenzofluorenopentaphene deriv **electroluminescent**  
 device  
 IT **Electroluminescent** devices  
 (novel dibenzofluorenopentaphene derivs. for)  
 IT Fluorescent substances  
 (novel dibenzofluorenopentaphene derivs. for organic  
**electroluminescent** devices)  
 IT Polycarbonates, uses  
 RL: DEV (Device component use); USES (Uses)  
 (novel dibenzofluorenopentaphene derivs. for organic  
**electroluminescent** devices)  
 IT Hydrocarbons, uses  
 RL: DEV (Device component use); RCT (Reactant); RACT (Reactant or  
 reagent); USES (Uses)  
 (novel dibenzofluorenopentaphene derivs. for organic  
**electroluminescent** devices)  
 IT 405508-28-3

RL: RCT (Reactant); RACT (Reactant or reagent)  
(3novel dibenzofluorenopentaphene derivs. for organic  
electroluminescent devices)

IT 405508-05-6  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(9novel dibenzofluorenopentaphene derivs. for organic  
electroluminescent devices)

IT 1450-63-1  
RL: DEV (Device component use); USES (Uses)  
(blue **light-emitting** component; novel  
dibenzofluorenopentaphene derivs. for organic  
electroluminescent devices)

IT 2085-33-8  
RL: DEV (Device component use); USES (Uses)  
(electron injection/transport layer; novel  
dibenzofluorenopentaphene derivs. for organic  
electroluminescent devices)

IT 38215-36-0  
RL: DEV (Device component use); USES (Uses)  
(green **light-emitting** component; novel  
dibenzofluorenopentaphene derivs. for organic  
electroluminescent devices)

IT 65181-78-4  
RL: DEV (Device component use); USES (Uses)  
(hole injection/transport layer; novel  
dibenzofluorenopentaphene derivs. for organic  
electroluminescent devices)

IT 146162-48-3 146162-54-1  
RL: DEV (Device component use); USES (Uses)  
(**light-emitting** layer containing; novel  
dibenzofluorenopentaphene derivs. for organic  
electroluminescent devices)

IT 25067-59-8 124729-98-2 138372-67-5 150405-69-9 405507-55-3  
405507-56-4 405507-57-5 405507-58-6 405507-59-7  
405507-60-0 405507-61-1 405507-62-2 405507-63-3  
405507-64-4 405507-65-5 405507-66-6 405507-67-7  
405507-68-8 405507-69-9 405507-70-2 405507-71-3  
405507-72-4 405507-73-5 405507-74-6 405507-75-7  
405507-76-8 405507-77-9 405507-79-1 405507-81-5  
405507-83-7 405507-85-9 405507-87-1 405507-89-3  
405507-91-7 405507-93-9 405507-95-1  
RL: DEV (Device component use); USES (Uses)  
(novel dibenzofluorenopentaphene derivs. for organic  
electroluminescent devices)

IT 405507-97-3 405507-99-5 405508-01-2  
405508-03-4 405508-04-5 405508-06-7  
405508-07-8 405508-08-9 405508-09-0  
405508-10-3 405508-11-4 405508-12-5  
405508-13-6 405508-14-7 405508-15-8  
405508-16-9 405508-17-0 405508-18-1  
405508-19-2 405508-20-5 405508-21-6  
405508-22-7 405508-23-8 405508-24-9  
405508-25-0 405508-26-1 405508-27-2  
405508-29-4 405508-30-7 405508-31-8  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(novel dibenzofluorenopentaphene derivs. for organic  
electroluminescent devices)

L54 ANSWER 33 OF 51 HCAPLUS COPYRIGHT 2006 ACS on STN  
ACCESSION NUMBER: 2002:156067 HCAPLUS  
DOCUMENT NUMBER: 136:341105  
TITLE: Asymmetric Oxidative Coupling Polymerization  
of Optically Active Tetrahydroxybinaphthalene  
Derivative  
AUTHOR(S): Habaue, Shigeki; Seko, Tomoaki; Okamoto,  
Yoshio

CORPORATE SOURCE: Graduate School of Engineering, Department of Applied Chemistry, Nagoya University, Furo-cho, Chikusa-ku, Nagoya, 464-8603, Japan

SOURCE: Macromolecules (2002), 35(7), 2437-2439  
CODEN: MAMOBX; ISSN: 0024-9297

PUBLISHER: American Chemical Society

DOCUMENT TYPE: Journal

LANGUAGE: English

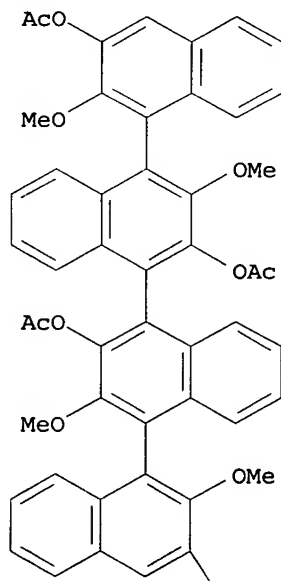
AB Poly(1,1'-bi-2-naphthol) derivs., in which the naphthalene units are connected at their 1,4-positions, with a high stereoregularity were synthesized by the asym. oxidative coupling polymerization of (R)-/(S)-3,3'-dihydroxy-2,2'-dimethoxy-1,1'-binaphthalene with chiral Cu reagents (i.e., CuCl/(S)-(+)-1-(2-pyrrolidinylmethyl)pyrrolidine or CuCl2/(-)-sparteine complexes).

IT 416841-29-7 416841-30-0 416841-31-1  
RL: PRP (Properties)  
(model compds.; preparation and properties of poly(binaphthol) made by asym. oxidative coupling polymerization of tetrahydroxybinaphthalene)

RN 416841-29-7 HCAPLUS

CN [1,1':4',1'':4'',1''':4'''-Quaternaphthalene]-2'',3,3',3'''-tetrol, 2,2',2'',3'''-tetramethoxy-, tetraacetate, (1S,1''S,1'''S)- (9CI)  
(CA INDEX NAME)

PAGE 1-A



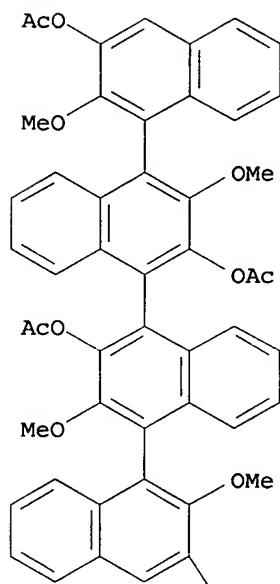
PAGE 2-A



RN 416841-30-0 HCAPLUS

CN [1,1':4',1'':4'',1''':4'''-Quaternaphthalene]-2'',3,3',3'''-tetrol, 2,2',2'',3'''-tetramethoxy-, tetraacetate, (1S,1''R,1'''S)- (9CI)  
(CA INDEX NAME)

PAGE 1-A

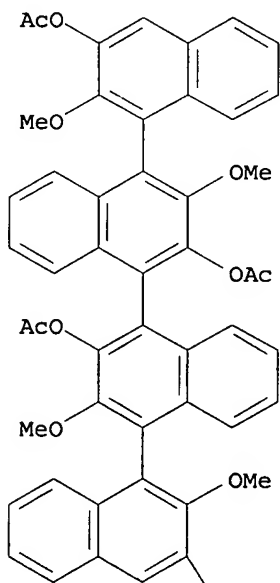


PAGE 2-A



RN 416841-31-1 HCAPLUS  
CN [1,1':4',1'':4'',1''':4'''-Quaternaphthalene]-2'',3,3',3'''-tetrol,  
2,2',2'',3'''-tetramethoxy-, tetraacetate, (1R,1''R,1'''S)- (9CI)  
(CA INDEX NAME)

PAGE 1-A



PAGE 2-A

OAc

CC 35-7 (Chemistry of Synthetic High Polymers)  
 IT 416841-29-7 416841-30-0 416841-31-1  
 RL: PRP (Properties)  
 (model compds.; preparation and properties of poly(binaphthol) made  
 by asym. oxidative coupling polymerization of  
 tetrahydroxybinaphthalene)

REFERENCE COUNT: 27 THERE ARE 27 CITED REFERENCES AVAILABLE  
 FOR THIS RECORD. ALL CITATIONS AVAILABLE  
 IN THE RE FORMAT

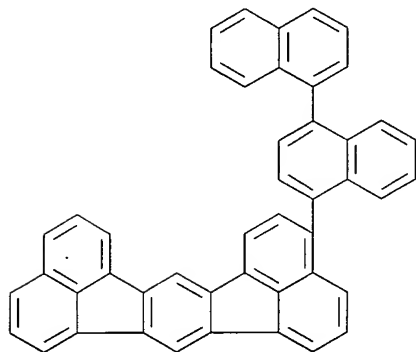
L54 ANSWER 34 OF 51 HCAPLUS COPYRIGHT 2006 ACS on STN  
 ACCESSION NUMBER: 2002:139110 HCAPLUS  
 DOCUMENT NUMBER: 136:175292  
 TITLE: Dibenzo[kl,rst]acenaphtho[1',2':6,7]fluoreno[9  
 ,1,2-cde]pentaphene derivatives and organic  
 electroluminescent devices using them  
 INVENTOR(S): Ishida, Tsutomu; Shimamura, Takehiko; Totani,  
 Yoshiyuki; Nakatsuka, Masakatsu  
 PATENT ASSIGNEE(S): Mitsui Chemicals Inc., Japan  
 SOURCE: Jpn. Kokai Tokkyo Koho, 51 pp.  
 CODEN: JKXXAF  
 DOCUMENT TYPE: Patent  
 LANGUAGE: Japanese  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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JP 2002056979	A2	20020222	JP 2000-242475	2000 0810
PRIORITY APPLN. INFO.: JP 2000-242475				2000 0810

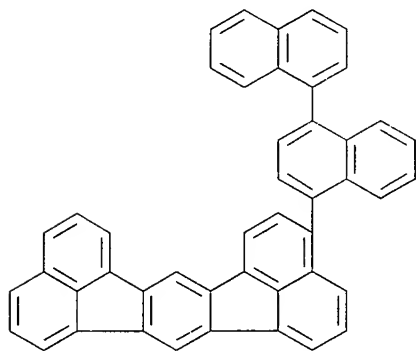
OTHER SOURCE(S): MARPAT 136:175292  
 AB The invention relates to an organic electroluminescent  
 device comprising a pair of electrodes sandwiching  
 ≥1 layer(s) containing ≥1 dibenzo[kl,rst]acenaphtho[1',2  
 ':6,7]fluoreno[9,1,2-cde]pentaphene derivs..

IT 390761-74-7 390761-74-7D, derivs.  
 390762-17-1 396099-75-5 396099-76-6  
 396099-77-7 396099-78-8 396099-79-9  
 396099-80-2 396099-81-3 396099-82-4  
 396099-83-5 396099-84-6 396099-85-7  
 396099-86-8 396099-87-9 396099-88-0  
 396099-89-1 396099-90-4 396099-92-6  
 396099-93-7 396099-94-8 396099-95-9  
 396099-96-0 396099-97-1 396099-98-2  
 396099-99-3 396100-00-8 396100-01-9  
 396100-02-0 396100-03-1 396100-04-2  
 396100-05-3 396100-06-4 396100-07-5  
 396100-08-6 396100-09-7 396100-10-0  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (novel dibenzoacenaphthofluorenopentaphene derivs. for organic  
 electroluminescent devices)

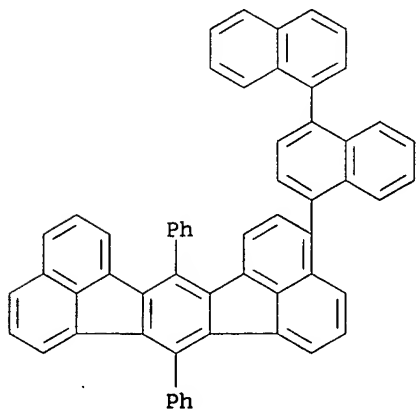
RN 390761-74-7 HCAPLUS  
CN Acenaphtho[1,2-k]fluoranthene, 3-[1,1'-binaphthalen]-4-yl- (9CI)  
(CA INDEX NAME)



RN 390761-74-7 HCAPLUS  
CN Acenaphtho[1,2-k]fluoranthene, 3-[1,1'-binaphthalen]-4-yl- (9CI)  
(CA INDEX NAME)

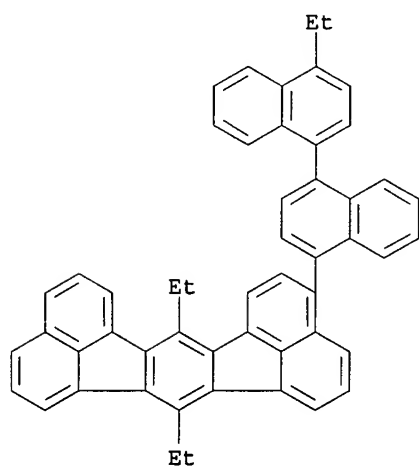


RN 390762-17-1 HCAPLUS  
CN Acenaphtho[1,2-k]fluoranthene, 3-[1,1'-binaphthalen]-4-yl-7,14-diphenyl- (9CI) (CA INDEX NAME)



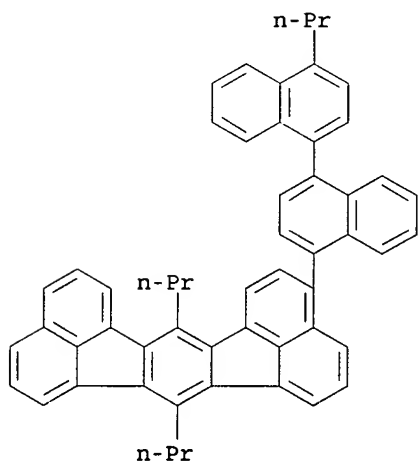
RN 396099-75-5 HCAPLUS

CN Acenaphtho[1,2-k]fluoranthene, 7,14-diethyl-3-(4'-ethyl[1,1'-binaphthalen]-4-yl)- (9CI) (CA INDEX NAME)



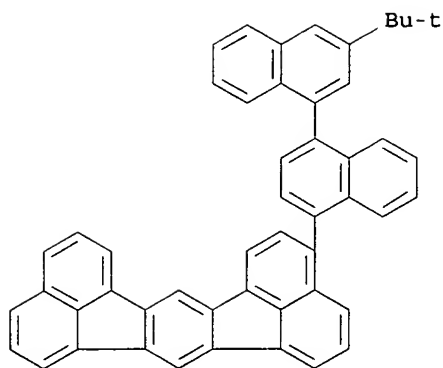
RN 396099-76-6 HCAPLUS

CN Acenaphtho[1,2-k]fluoranthene, 7,14-dipropyl-3-(4'-propyl[1,1'-binaphthalen]-4-yl)- (9CI) (CA INDEX NAME)

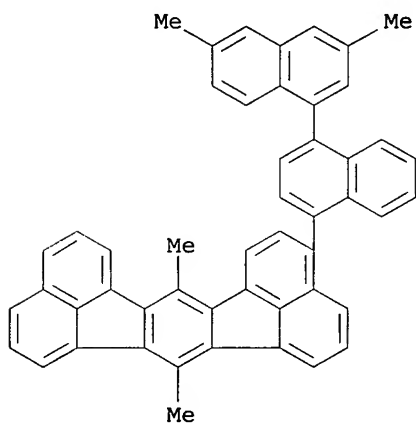


RN 396099-77-7 HCAPLUS

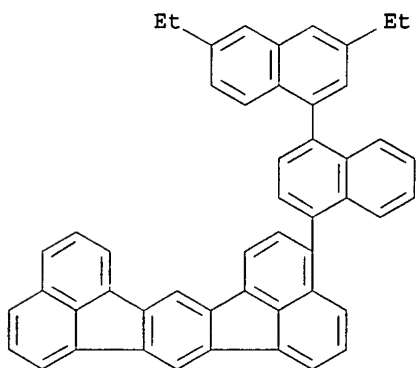
CN Acenaphtho[1,2-k]fluoranthene, 3-[3'-(1,1-dimethylethyl)[1,1'-binaphthalen]-4-yl]- (9CI) (CA INDEX NAME)



RN 396099-78-8 HCAPLUS  
CN Acenaphtho[1,2-k]fluoranthene, 3-(3',6'-dimethyl[1,1'-binaphthalen]-4-yl)-7,14-dimethyl- (9CI) (CA INDEX NAME)

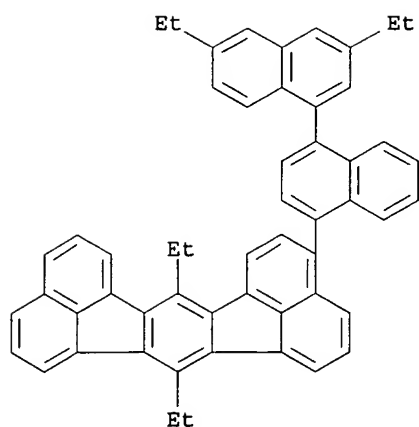


RN 396099-79-9 HCAPLUS  
CN Acenaphtho[1,2-k]fluoranthene, 3-(3',6'-diethyl[1,1'-binaphthalen]-4-yl)-7,14-dimethyl- (9CI) (CA INDEX NAME)

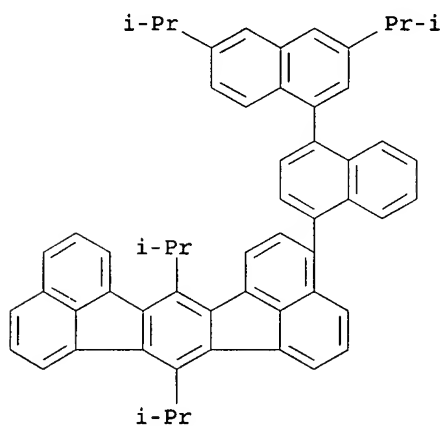


RN 396099-80-2 HCAPLUS  
CN Acenaphtho[1,2-k]fluoranthene, 3-(3',6'-diethyl[1,1'-binaphthalen]-4-yl)-7,14-diethyl- (9CI) (CA INDEX NAME)

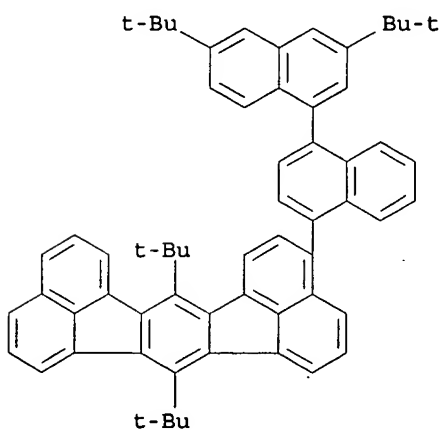




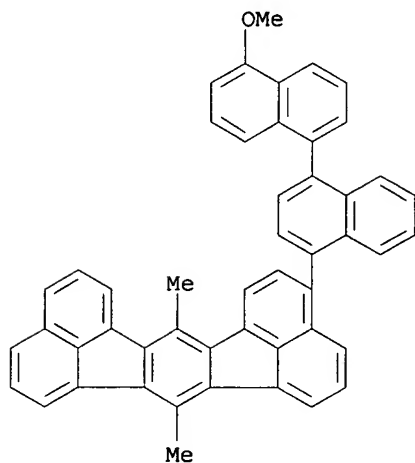
RN 396099-81-3 HCAPLUS  
 CN Acenaphtho[1,2-k]fluoranthene, 3-[3',6'-bis(1-methylethyl)[1,1'-binaphthalen]-4-yl]-7,14-bis(1-methylethyl)- (9CI) (CA INDEX NAME)



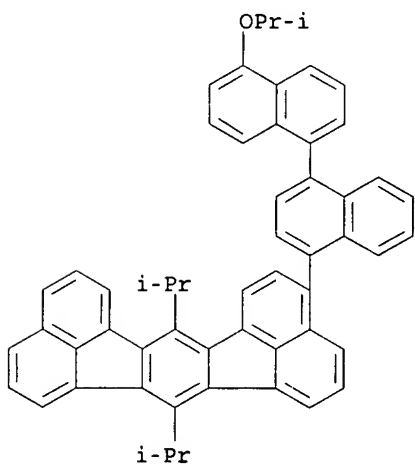
RN 396099-82-4 HCAPLUS  
 CN Acenaphtho[1,2-k]fluoranthene, 3-[3',6'-bis(1,1-dimethylethyl)[1,1'-binaphthalen]-4-yl]-7,14-bis(1,1-dimethylethyl)- (9CI) (CA INDEX NAME)



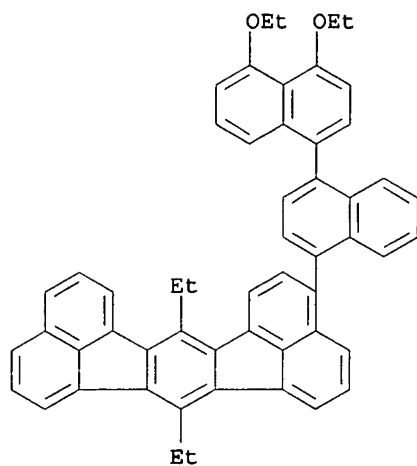
RN 396099-83-5 HCAPLUS  
CN Acenaphtho[1,2-k]fluoranthene, 3-(5'-methoxy[1,1'-binaphthalen]-4-yl)-7,14-dimethyl- (9CI) (CA INDEX NAME)



RN 396099-84-6 HCAPLUS  
CN Acenaphtho[1,2-k]fluoranthene, 3-[5'-(1-methylethoxy)[1,1'-binaphthalen]-4-yl]-7,14-bis(1-methylethyl)- (9CI) (CA INDEX NAME)

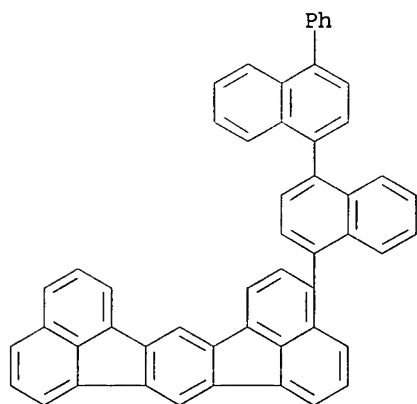


RN 396099-85-7 HCAPLUS  
CN Acenaphtho[1,2-k]fluoranthene, 3-(4',5'-diethoxy[1,1'-binaphthalen]-4-yl)-7,14-diethyl- (9CI) (CA INDEX NAME)



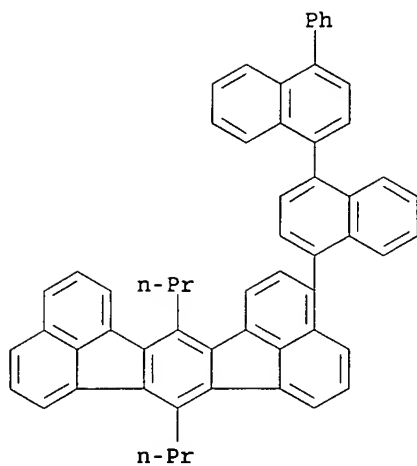
RN 396099-86-8 HCAPLUS

CN Acenaphtho[1,2-k]fluoranthene, 3-(4'-phenyl[1,1'-binaphthalen]-4-yl)- (9CI) (CA INDEX NAME)

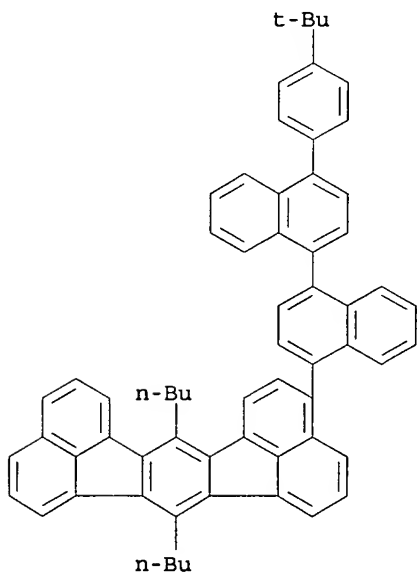


RN 396099-87-9 HCAPLUS

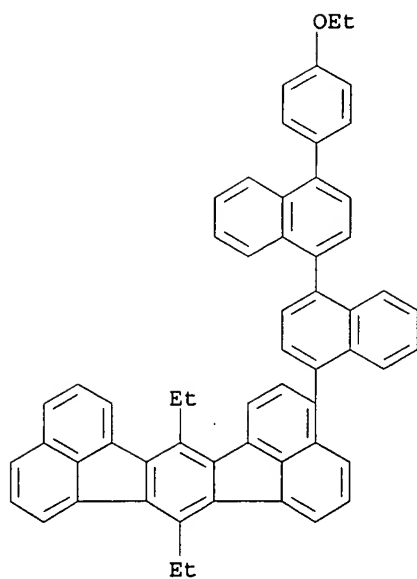
CN Acenaphtho[1,2-k]fluoranthene, 3-(4'-phenyl[1,1'-binaphthalen]-4-yl)-7,14-dipropyl- (9CI) (CA INDEX NAME)



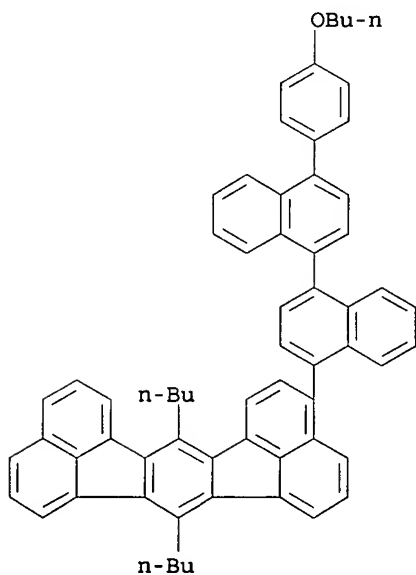
RN 396099-88-0 HCAPLUS  
 CN Acenaphtho[1,2-k]fluoranthene, 7,14-dibutyl-3-[4'-(4-(1,1-dimethylethyl)phenyl)][1,1'-binaphthalen]-4-yl]- (9CI) (CA INDEX NAME)



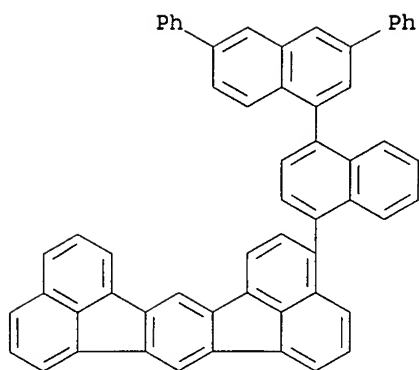
RN 396099-89-1 HCAPLUS  
 CN Acenaphtho[1,2-k]fluoranthene, 3-[4'-(4-ethoxyphenyl)][1,1'-binaphthalen]-4-yl]-7,14-diethyl- (9CI) (CA INDEX NAME)



RN 396099-90-4 HCAPLUS  
CN Acenaphtho[1,2-k]fluoranthene, 3-[4'-(4-butoxyphenyl)[1,1'-binaphthalen]-4-yl]-7,14-dibutyl- (9CI) (CA INDEX NAME)

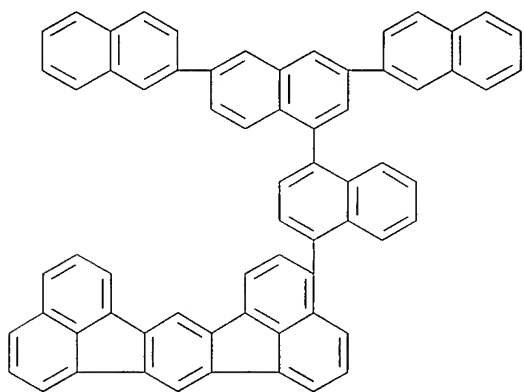


RN 396099-92-6 HCAPLUS  
CN Acenaphtho[1,2-k]fluoranthene, 3-(3',6'-diphenyl[1,1'-binaphthalen]-4-yl)- (9CI) (CA INDEX NAME)



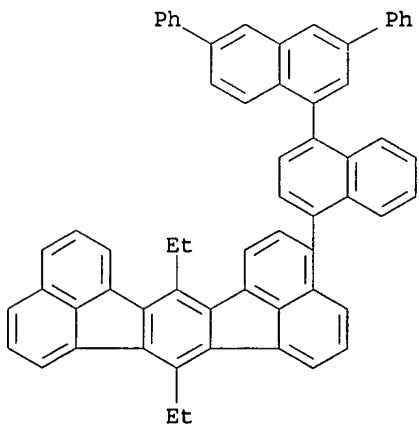
RN 396099-93-7 HCAPLUS

CN Acenaphtho[1,2-k]fluoranthene, 3-[6'-(2-naphthalenyl)[1,1':3',2''-ternaphthalen]-4-yl]- (9CI) (CA INDEX NAME)



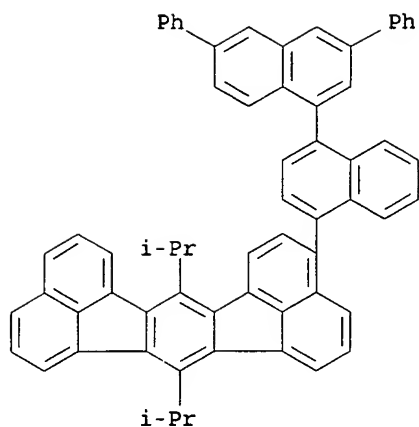
RN 396099-94-8 HCAPLUS

CN Acenaphtho[1,2-k]fluoranthene, 3-(3',6'-diphenyl[1,1'-binaphthalen]-4-yl)-7,14-diethyl- (9CI) (CA INDEX NAME)



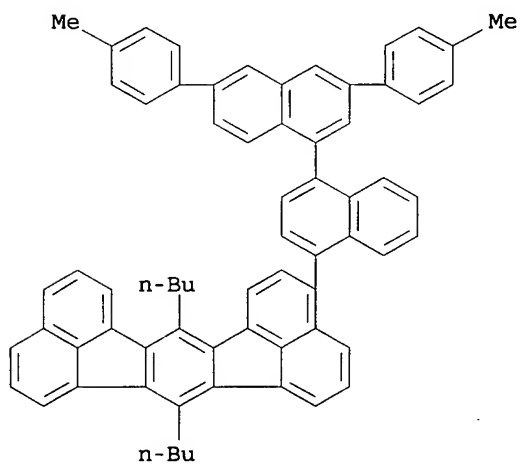
RN 396099-95-9 HCAPLUS

CN Acenaphtho[1,2-k]fluoranthene, 3-(3',6'-diphenyl[1,1'-binaphthalen]-4-yl)-7,14-bis(1-methylethyl)- (9CI) (CA INDEX NAME)



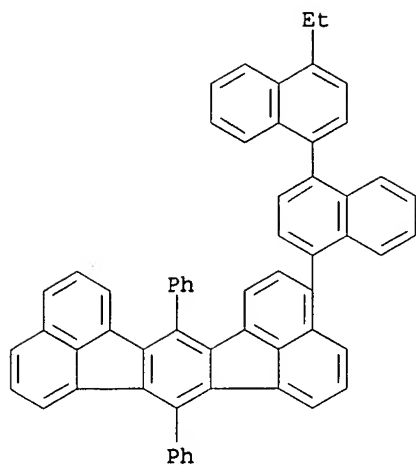
RN 396099-96-0 HCAPLUS

CN Acenaphtho[1,2-k]fluoranthene, 3-[3',6'-bis(4-methylphenyl)[1,1'-binaphthalen]-4-yl]-7,14-dibutyl- (9CI) (CA INDEX NAME)



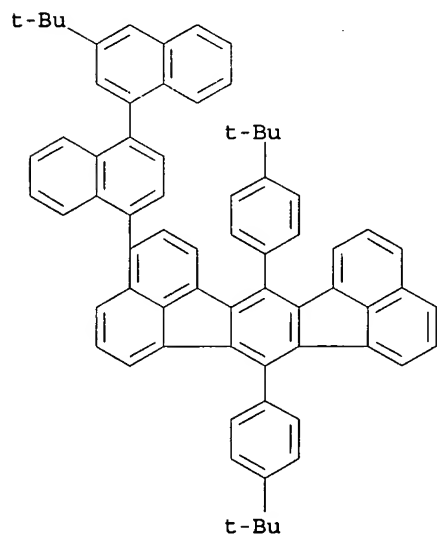
RN 396099-97-1 HCAPLUS

CN Acenaphtho[1,2-k]fluoranthene, 3-(4'-ethyl[1,1'-binaphthalen]-4-yl)-7,14-diphenyl- (9CI) (CA INDEX NAME)



RN 396099-98-2 HCAPLUS

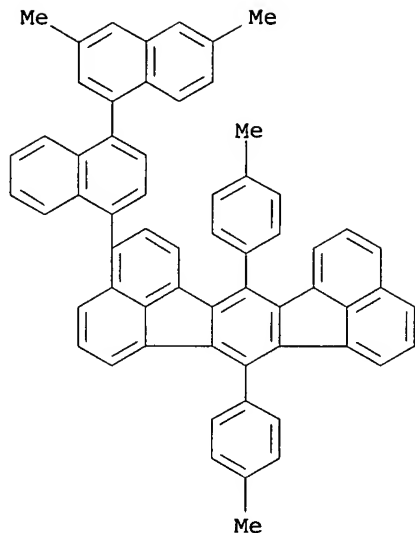
CN Acenaphtho[1,2-k]fluoranthene, 3-[3'-(1,1-dimethylethyl)[1,1'-binaphthalen]-4-yl]-7,14-bis[4-(1,1-dimethylethyl)phenyl]- (9CI)  
(CA INDEX NAME)



RN 396099-99-3 HCAPLUS

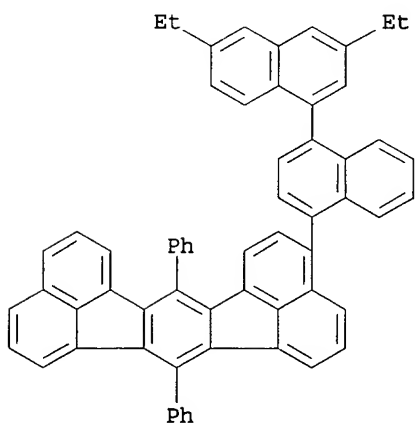
CN Acenaphtho[1,2-k]fluoranthene, 3-(3',6'-dimethyl[1,1'-binaphthalen]-4-yl)-7,14-bis(4-methylphenyl)- (9CI) (CA INDEX NAME)





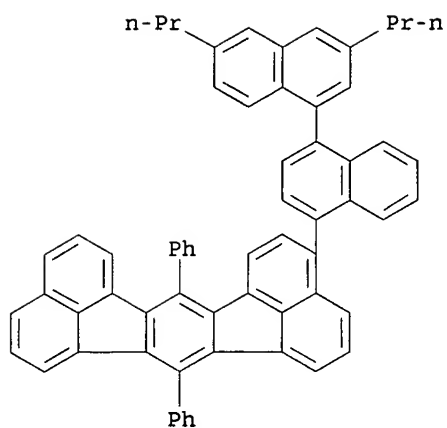
RN 396100-00-8 HCAPLUS

CN Acenaphtho[1,2-k]fluoranthene, 3-(3',6'-diethyl[1,1'-binaphthalen]-4-yl)-7,14-diphenyl- (9CI) (CA INDEX NAME)



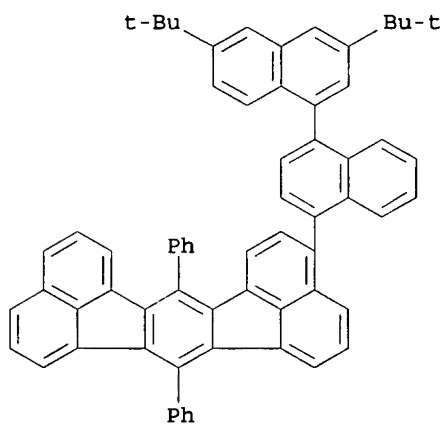
RN 396100-01-9 HCAPLUS

CN Acenaphtho[1,2-k]fluoranthene, 3-(3',6'-dipropyl[1,1'-binaphthalen]-4-yl)-7,14-diphenyl- (9CI) (CA INDEX NAME)



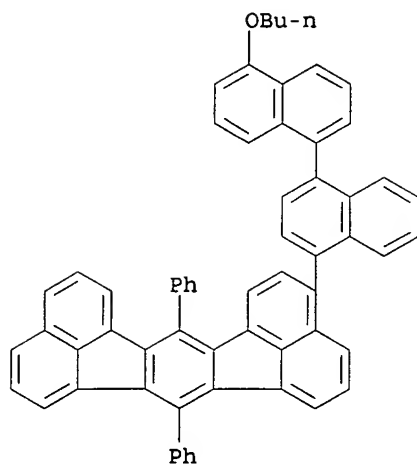
RN 396100-02-0 HCAPLUS

CN Acenaphtho[1,2-k]fluoranthene, 3-[3',6'-bis(1,1-dimethylethyl)[1,1'-binaphthalen]-4-yl]-7,14-diphenyl- (9CI) (CA INDEX NAME)



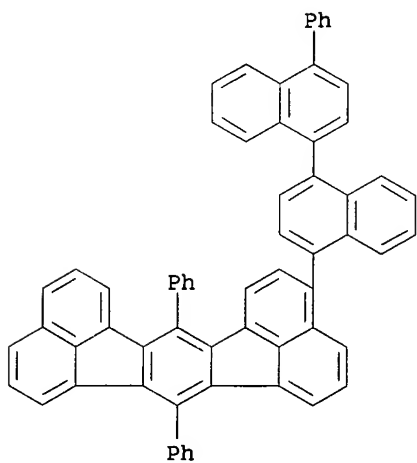
RN 396100-03-1 HCAPLUS

CN Acenaphtho[1,2-k]fluoranthene, 3-(5'-butoxy[1,1'-binaphthalen]-4-yl)-7,14-diphenyl- (9CI) (CA INDEX NAME)



RN 396100-04-2 HCAPLUS

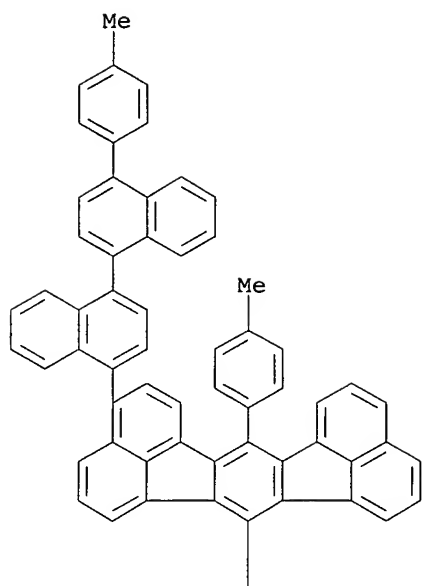
CN Acenaphtho[1,2-k]fluoranthene, 7,14-diphenyl-3-(4'-phenyl[1,1'-binaphthalen]-4-yl)- (9CI) (CA INDEX NAME)



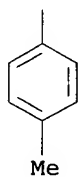
RN 396100-05-3 HCAPLUS

CN Acenaphtho[1,2-k]fluoranthene, 7,14-bis(4-methylphenyl)-3-[4'-(4-methylphenyl)[1,1'-binaphthalen]-4-yl]- (9CI) (CA INDEX NAME)

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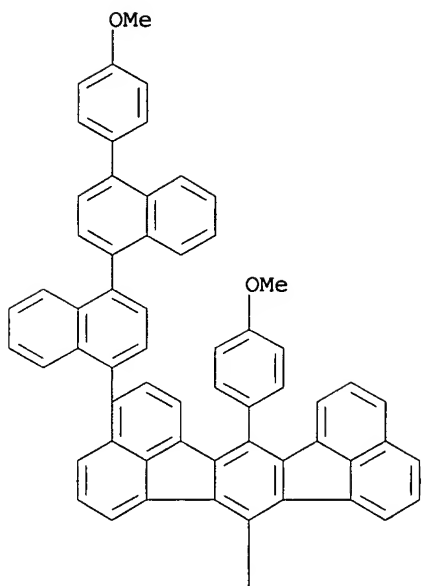


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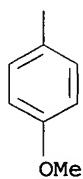


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CN Acenaphtho[1,2-k]fluoranthene, 7,14-bis(4-methoxyphenyl)-3-[4'-(4-methoxyphenyl)[1,1'-binaphthalen]-4-yl]- (9CI) (CA INDEX NAME)

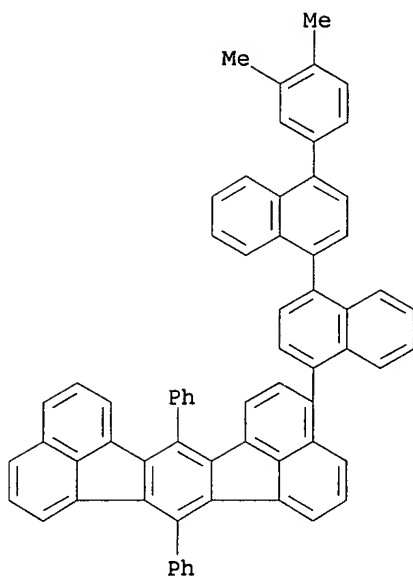
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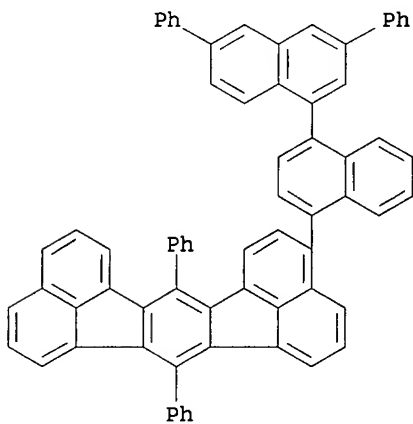
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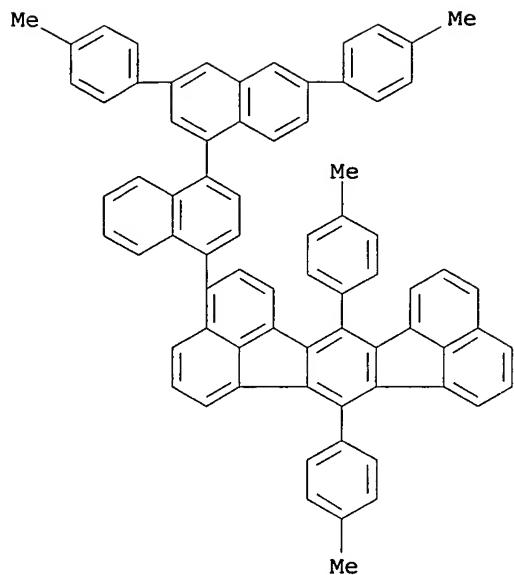
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CN Acenaphtho[1,2-k]fluoranthene, 3-[4'-(3,4-dimethylphenyl)][1,1'-binaphthalen]-4-yl]-7,14-diphenyl- (9CI) (CA INDEX NAME)



RN 396100-08-6 HCAPLUS  
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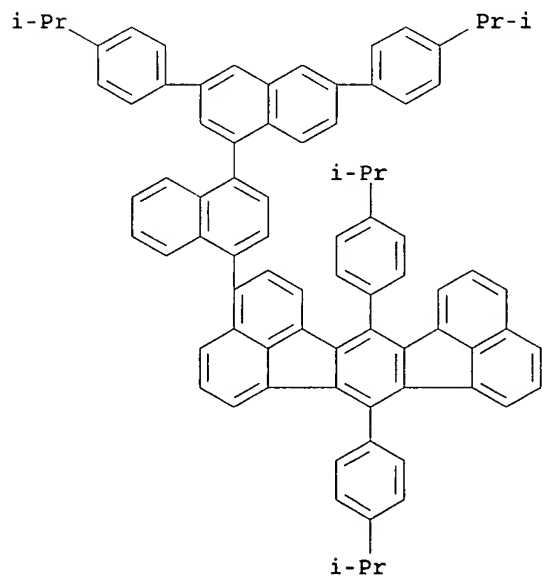


RN 396100-09-7 HCAPLUS  
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RN 396100-10-0 HCAPLUS

CN Acenaphtho[1,2-k]fluoranthene, 3-[3',6'-bis[4-(1-methylethyl)phenyl]][1,1'-binaphthalen]-4-yl]-7,14-bis[4-(1-methylethyl)phenyl]- (9CI) (CA INDEX NAME)



IC ICM H05B033-14

ICS C07C013-62; C07C043-20; C07C043-21; C09K011-06

CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)

Section cross-reference(s): 25

ST electroluminescent device benzoacenaphthofluorenopentaphene deriv

IT Electroluminescent devices

(novel dibenzoacenaphthofluorenopentaphene derivs. for)

IT Fluorescent substances

(novel dibenzoacenaphthofluorenopentaphene derivs. for organic

electroluminescent devices)  
IT Hydrocarbons, uses  
Polycarbonates, uses  
RL: DEV (Device component use); RCT (Reactant); RACT (Reactant or reagent); USES (Uses)  
(novel dibenzoacenaphthofluorenopentaphene derivs. for organic electroluminescent devices)  
IT 1450-63-1  
RL: DEV (Device component use); USES (Uses)  
(blue-light-emitting component; novel dibenzoacenaphthofluorenopentaphene derivs. for organic electroluminescent devices)  
IT 38215-36-0  
RL: DEV (Device component use); USES (Uses)  
(green-light-emitting component; novel dibenzoacenaphthofluorenopentaphene derivs. for organic electroluminescent devices)  
IT 65181-78-4  
RL: DEV (Device component use); USES (Uses)  
(hole injection/transport layer; novel dibenzoacenaphthofluorenopentaphene derivs. for organic electroluminescent devices)  
IT 138372-67-5 146162-48-3 146162-54-1  
RL: DEV (Device component use); USES (Uses)  
(light-emitting layer containing; novel dibenzoacenaphthofluorenopentaphene derivs. for organic electroluminescent devices)  
IT 2085-33-8, Alq3 25067-59-8 124729-98-2 150405-69-9  
396100-11-1 396100-12-2 396100-13-3 396100-14-4  
396100-15-5 396100-16-6 396100-17-7 396100-18-8  
396100-19-9 396100-20-2 396100-21-3 396100-22-4  
396100-23-5 396100-24-6 396100-25-7 396100-26-8  
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396100-43-9 396100-44-0 396100-45-1 396100-46-2  
396100-47-3  
RL: DEV (Device component use); USES (Uses)  
(novel dibenzoacenaphthofluorenopentaphene derivs. for organic electroluminescent devices)  
IT 390761-74-7 390761-74-7D, derivs.  
390762-17-1 396099-75-5 396099-76-6  
396099-77-7 396099-78-8 396099-79-9  
396099-80-2 396099-81-3 396099-82-4  
396099-83-5 396099-84-6 396099-85-7  
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396100-05-3 396100-06-4 396100-07-5  
396100-08-6 396100-09-7 396100-10-0  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(novel dibenzoacenaphthofluorenopentaphene derivs. for organic electroluminescent devices)

L54 ANSWER 35 OF 51 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2002:69661 HCAPLUS

DOCUMENT NUMBER: 136:126326

TITLE: Dibenzo[kl,rst]benzo[6,7]fluoreno[9,1,2-cde]pentaphene derivatives and organic electroluminescent devices containing the same

INVENTOR(S): Ishida, Tsutomu; Shimamura, Takehiko;

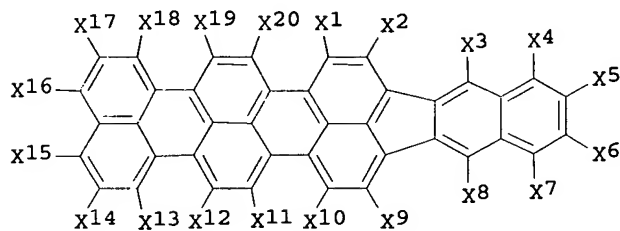


PATENT ASSIGNEE(S): Nakatsuka, Masakatsu  
 SOURCE: Mitsui Chemicals Inc., Japan  
 Jpn. Kokai Tokkyo Koho, 56 pp.  
 CODEN: JKXXAF  
 DOCUMENT TYPE: Patent  
 LANGUAGE: Japanese  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2002025777	A2	20020125	JP 2000-209226	2000 0711

PRIORITY APPLN. INFO.: JP 2000-209226  
 2000  
 0711

OTHER SOURCE(S): MARPAT 136:126326  
 GI



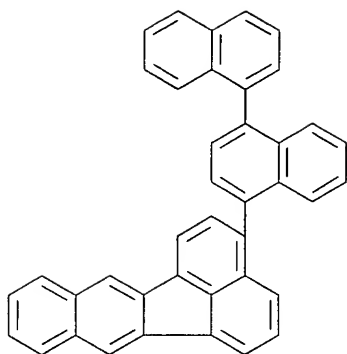
AB The organic EL devices have a pair of electrodes and in between,  $\geq 1$  layers, maybe emitter layers, containing dibenzo[kl,rst]benzo[6,7]fluoreno[9,1,2-cde]pentaphene derivs., which may be shown as I (X1-X20 = H, halogen, alkyl, alkoxy, aryl). The I-containing layer may further contain luminescent organometal complexes and triarylamine derivs. The device may further have a hole injection and transport layer and an electron injection and transport layer between the electrodes. The device have high luminescent efficiency and high brightness.

IT 390774-44-4 390774-45-5 390774-46-6  
 390774-47-7 390774-48-8 390774-49-9  
 390774-50-2 390774-51-3 390774-52-4  
 390774-53-5 390774-54-6 390774-55-7  
 390774-56-8 390774-57-9 390774-58-0  
 390774-59-1 390774-60-4 390774-61-5  
 390774-62-6 390774-63-7 390774-64-8  
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 390774-68-2 390774-69-3 390774-70-6  
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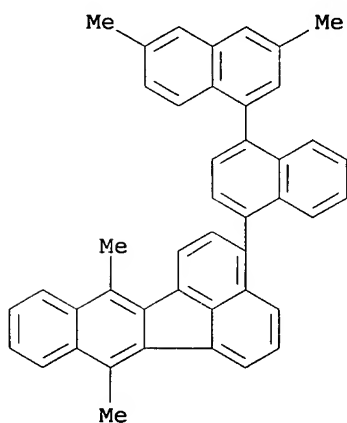
RL: RCT (Reactant); RACT (Reactant or reagent)  
 (organic EL devices containing dibenzo[kl,rst]benzo[6,7]fluoreno[9,1,2-cde]pentaphene derivs. in emitter layers prepared from)

RN 390774-44-4 HCAPLUS

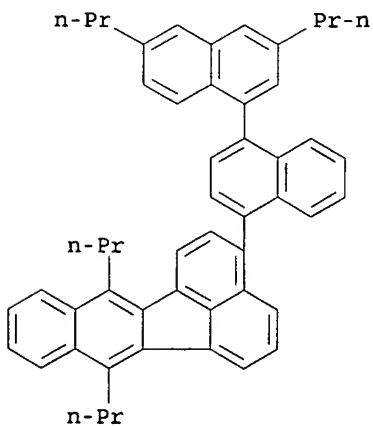
CN Benzo[k]fluoranthene, 3-[1,1'-binaphthalen]-4-yl- (9CI) (CA INDEX NAME)



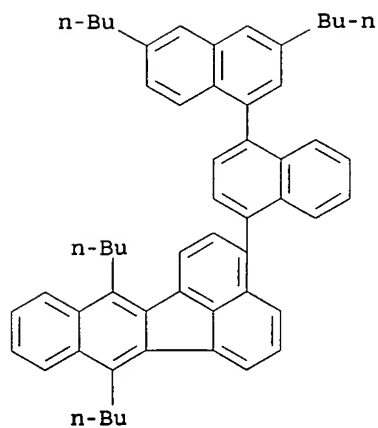
RN 390774-45-5 HCAPLUS  
CN Benzo[k]fluoranthene, 3-(3',6'-dimethyl[1,1'-binaphthalen]-4-yl)-7,12-dimethyl- (9CI) (CA INDEX NAME)



RN 390774-46-6 HCAPLUS  
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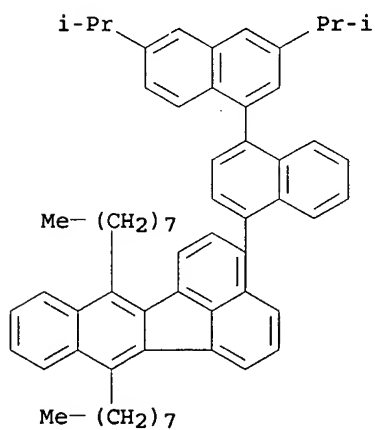


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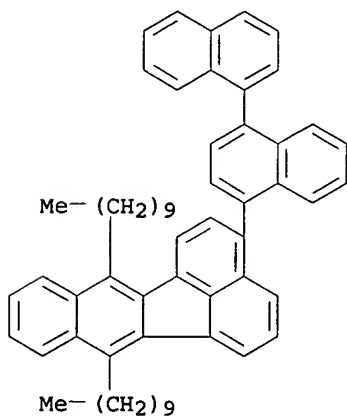
RN 390774-48-8 HCAPLUS

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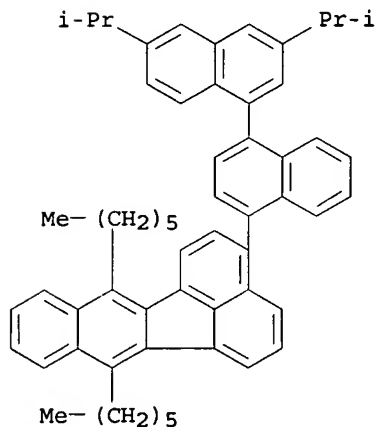


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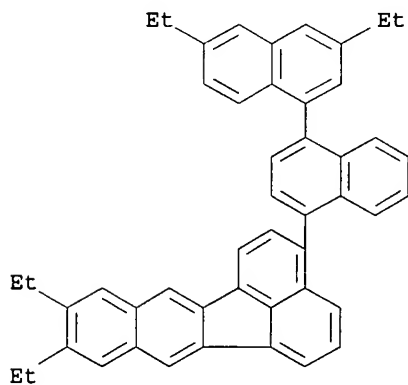
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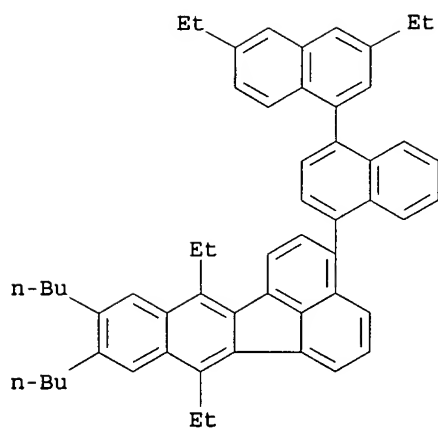
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CN Benzo[k]fluoranthene, 3-[3',6'-bis(1-methylethyl)[1,1'-binaphthalen]-4-yl]-7,12-dihexyl- (9CI) (CA INDEX NAME)



RN 390774-51-3 HCAPLUS  
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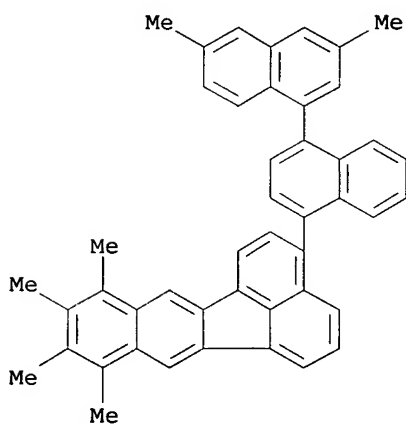


RN 390774-52-4 HCAPLUS  
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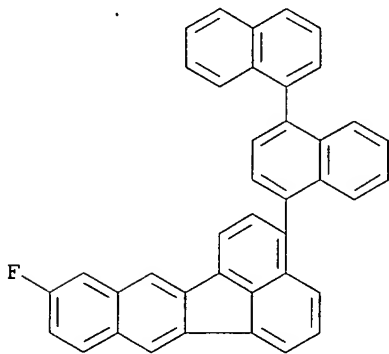
RN 390774-53-5 HCAPLUS

CN Benzo[k]fluoranthene, 3-(3',6'-dimethyl[1,1'-binaphthalen]-4-yl)-8,9,10,11-tetramethyl- (9CI) (CA INDEX NAME)



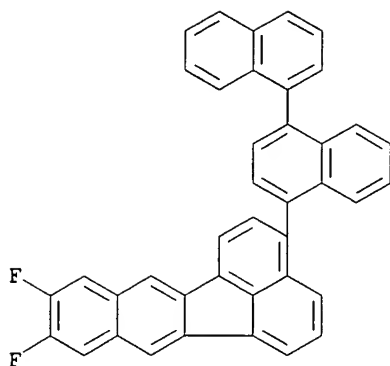
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CN Benzo[k]fluoranthene, 3-[1,1'-binaphthalen]-4-yl-10-fluoro- (9CI) (CA INDEX NAME)

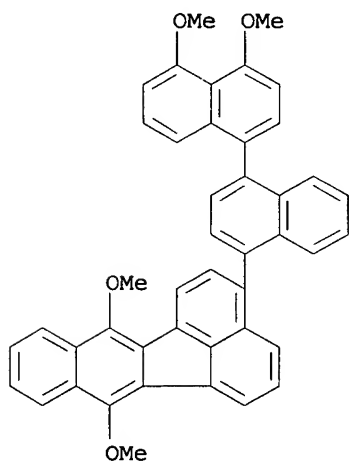


RN 390774-55-7 HCAPLUS

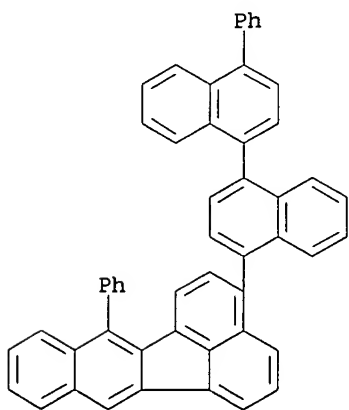
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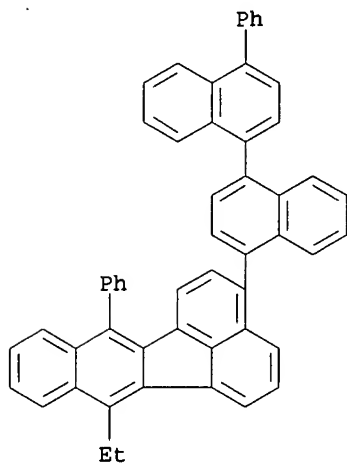
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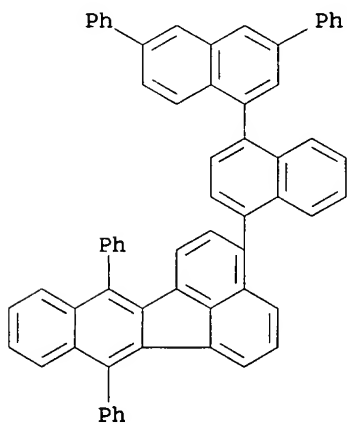
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 CN Benzo[k]fluoranthene, 12-phenyl-3-(4'-phenyl[1,1'-binaphthalen]-4-yl)- (9CI) (CA INDEX NAME)



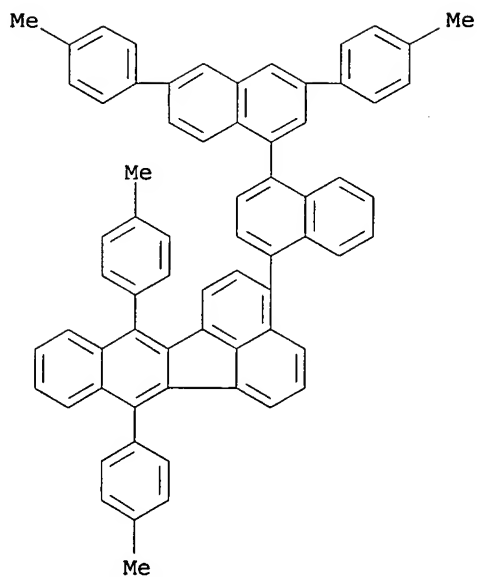
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RN 390774-59-1 HCAPLUS  
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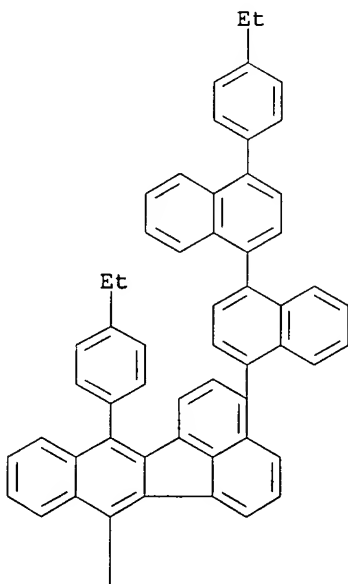


RN 390774-60-4 HCAPLUS  
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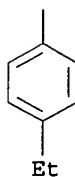
RN 390774-61-5 HCAPLUS  
CN Benzo[k]fluoranthene, 7,12-bis(4-ethylphenyl)-3-[4'-(4-ethylphenyl)[1,1'-binaphthalen]-4-yl]- (9CI) (CA INDEX NAME)

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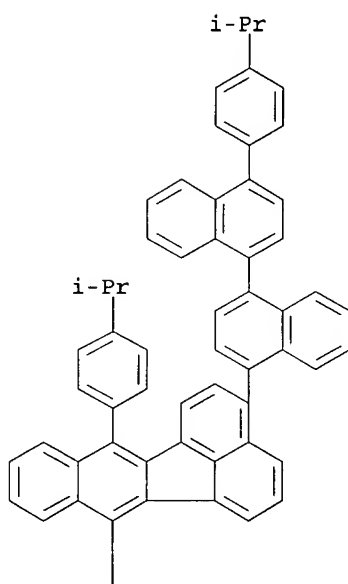


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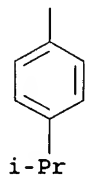


RN 390774-62-6 HCAPLUS  
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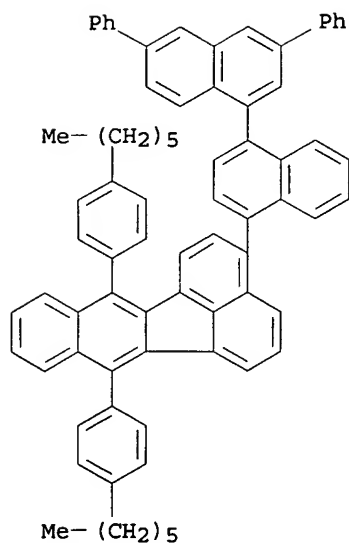
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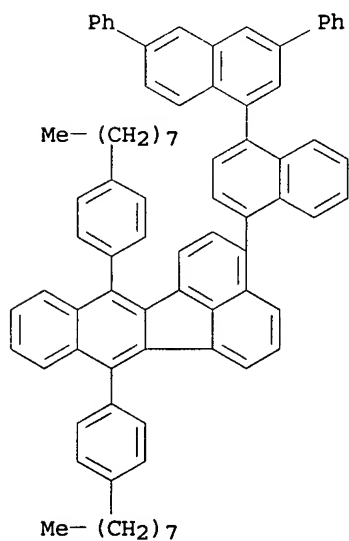


RN 390774-63-7 HCAPLUS  
 CN Benzo[k]fluoranthene, 3-(3',6'-diphenyl[1,1'-binaphthalen]-4-yl)-7,12-bis(4-hexylphenyl)- (9CI) (CA INDEX NAME)



RN 390774-64-8 HCAPLUS

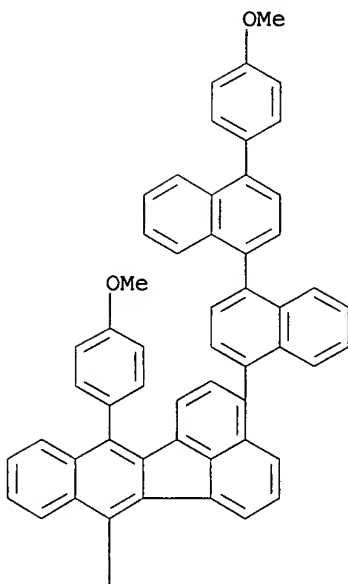
CN Benzo[k]fluoranthene, 3-(3',6'-diphenyl[1,1'-binaphthalen]-4-yl)-7,12-bis(4-octylphenyl)- (9CI) (CA INDEX NAME)



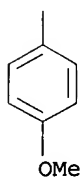
RN 390774-65-9 HCAPLUS

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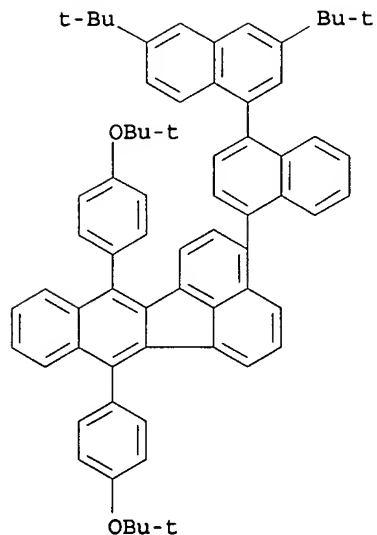
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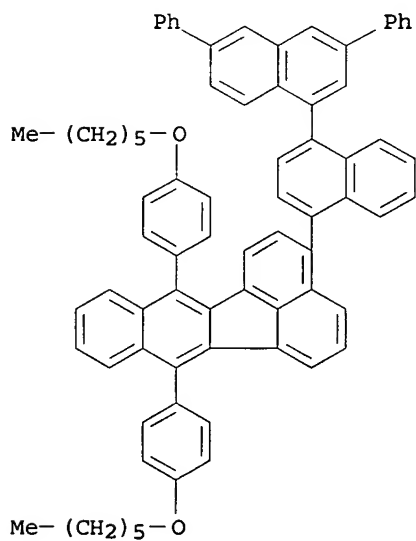


RN 390774-66-0 HCAPLUS  
CN Benzo[k]fluoranthene, 3-[3',6'-bis(1,1-dimethylethyl)[1,1'-binaphthalen]-4-yl]-7,12-bis[4-(1,1-dimethylethoxy)phenyl]- (9CI)  
(CA INDEX NAME)



RN 390774-67-1 HCAPLUS

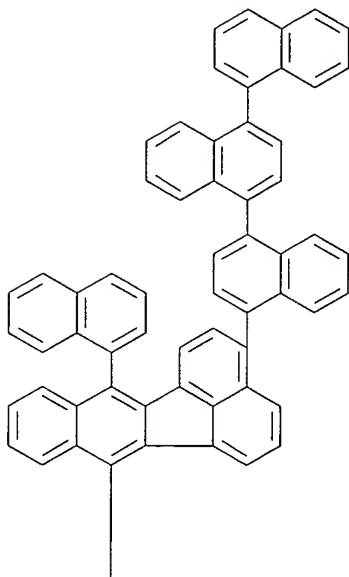
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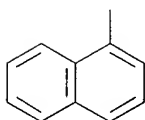
RN 390774-68-2 HCAPLUS

CN Benzo[k]fluoranthene, 7,12-di-1-naphthalenyl-3-[1,1':4',1''-ternaphthalen]-4-yl- (9CI) (CA INDEX NAME)

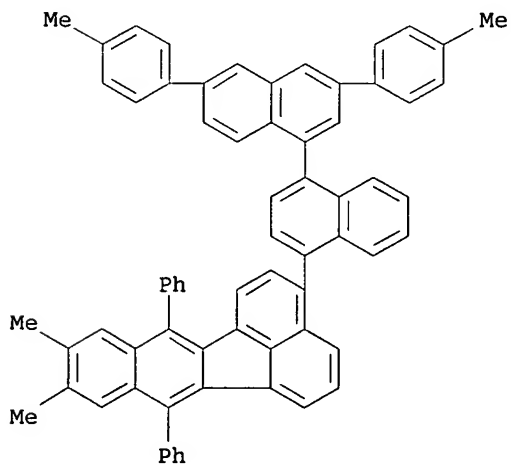
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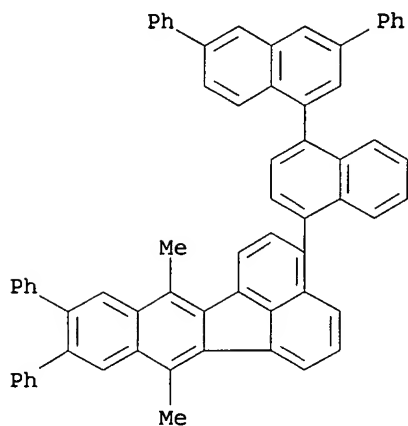


RN 390774-69-3 HCAPLUS  
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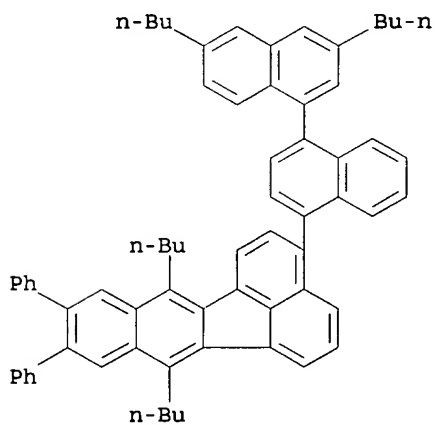
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7,12-dimethyl-9,10-diphenyl- (9CI) (CA INDEX NAME)



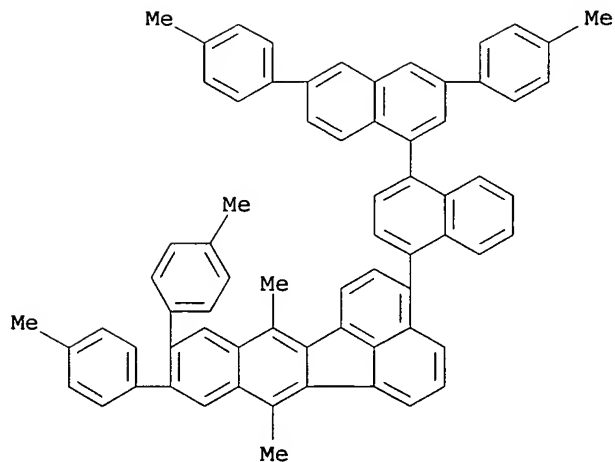
RN 390774-71-7 HCAPLUS

CN Benzo[k]fluoranthene, 7,12-dibutyl-3-(3',6'-dibutyl[1,1'-binaphthalen]-4-yl)-9,10-diphenyl- (9CI) (CA INDEX NAME)



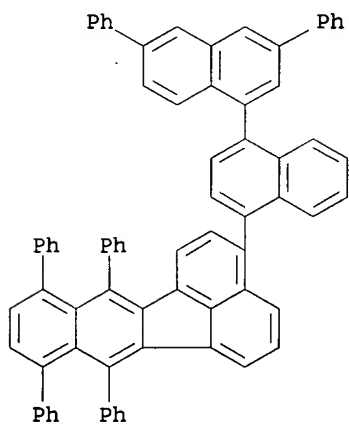
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CN Benzo[k]fluoranthene, 3-[3',6'-bis(4-methylphenyl)[1,1'-binaphthalen]-4-yl]-7,12-dimethyl-9,10-bis(4-methylphenyl)- (9CI) (CA INDEX NAME)



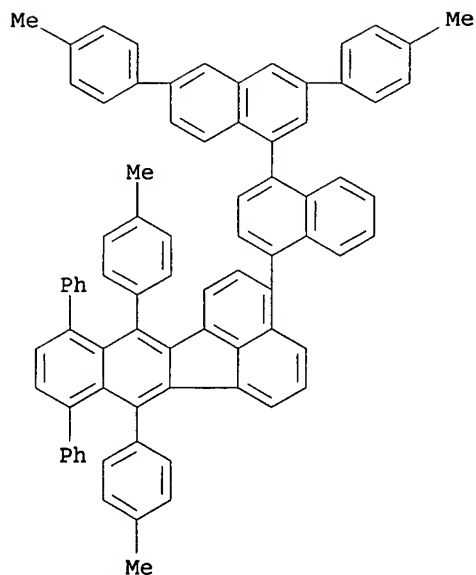
RN 390774-73-9 HCAPLUS

CN Benzo[k]fluoranthene, 3-(3',6'-diphenyl[1,1'-binaphthalen]-4-yl)-7,8,11,12-tetraphenyl- (9CI) (CA INDEX NAME)



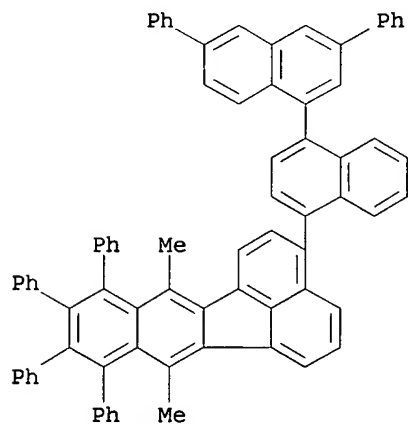
RN 390774-74-0 HCAPLUS

CN Benzo[k]fluoranthene, 3-[3',6'-bis(4-methylphenyl)[1,1'-binaphthalen]-4-yl]-7,12-bis(4-methylphenyl)-8,11-diphenyl- (9CI) (CA INDEX NAME)



RN 390774-75-1 HCAPLUS

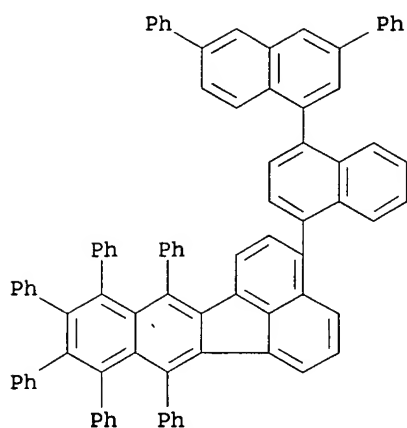
CN Benzo[k]fluoranthene, 3-(3',6'-diphenyl[1,1'-binaphthalen]-4-yl)-7,12-dimethyl-8,9,10,11-tetraphenyl- (9CI) (CA INDEX NAME)



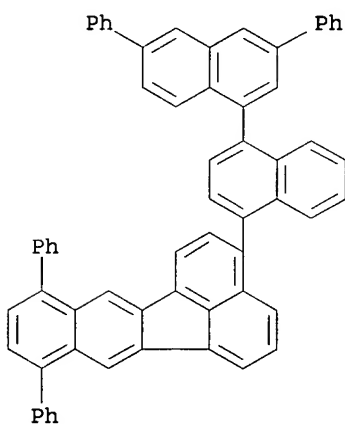
RN 390774-76-2 HCAPLUS

CN Benzo[k]fluoranthene, 3-(3',6'-diphenyl[1,1'-binaphthalen]-4-yl)-7,8,9,10,11,12-hexaphenyl- (9CI) (CA INDEX NAME)





RN 390775-05-0 HCAPLUS  
 CN Benzo[k]fluoranthene, 3-(3',6'-diphenyl[1,1'-binaphthalen]-4-yl)-8,11-diphenyl- (9CI) (CA INDEX NAME)



IC ICM H05B033-14  
 ICS C07C013-62; C07C025-22; C07C043-21; C09K011-06  
 CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)  
 Section cross-reference(s): 25, 74  
 ST org electroluminescent device emitter  
 dibenzobenzofluorenopentaphene deriv  
 IT Polycyclic compounds  
 RL: PNU (Preparation, unclassified); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
 (aromatic hydrocarbons; organic EL devices containing dibenzo[kl,rst]benzo[6,7]fluoreno[9,1,2-cde]pentaphene derivs. in emitter layers)  
 IT Amines, uses  
 RL: TEM (Technical or engineered material use); USES (Uses)  
 (aryl, tertiary, hole injection and transport layer; organic EL devices containing dibenzo[kl,rst]benzo[6,7]fluoreno[9,1,2-cde]pentaphene derivs. in emitter layers)  
 IT Electroluminescent devices  
 (organic; organic EL devices containing dibenzo[kl,rst]benzo[6,7]fluoreno[9,1,2-cde]pentaphene derivs. in emitter layers)  
 IT Aromatic hydrocarbons, uses  
 RL: PNU (Preparation, unclassified); TEM (Technical or engineered

material use); PREP (Preparation); USES (Uses)  
 (polycyclic; organic **EL** devices containing  
 dibenzo[kl,rst]benzo[6,7]fluoreno[9,1,2-cde]pentaphene derivs.  
 in emitter layers)

IT 2085-33-8 150405-69-9, 3-(4'-tert-Butylphenyl)-4-phenyl-5-(4''-  
 biphenyl)-1,2,4-triazole  
 RL: TEM (Technical or engineered material use); USES (Uses)  
 (electron injection and transport layer; organic **EL**  
 devices containing dibenzo[kl,rst]benzo[6,7]fluoreno[9,1,2-  
 cde]pentaphene derivs. in emitter layers)

IT 1450-63-1, 1,1,4,4-Tetraphenyl-1,3-butadiene 38215-36-0,  
 Coumarin 6 146162-54-1  
 RL: TEM (Technical or engineered material use); USES (Uses)  
 (emitter layer containing; organic **EL** devices containing  
 dibenzo[kl,rst]benzo[6,7]fluoreno[9,1,2-cde]pentaphene derivs.  
 in emitter layers)

IT 390774-11-5P 390774-12-6P 390774-13-7P 390774-14-8P  
 390774-15-9P 390774-16-0P 390774-17-1P 390774-18-2P  
 390774-19-3P 390774-20-6P 390774-21-7P 390774-22-8P  
 390774-23-9P 390774-24-0P 390774-25-1P 390774-26-2P  
 390774-27-3P 390774-28-4P 390774-29-5P 390774-30-8P  
 390774-31-9P 390774-32-0P 390774-33-1P 390774-34-2P  
 390774-35-3P 390774-36-4P 390774-37-5P 390774-38-6P  
 390774-40-0P 390774-41-1P 390774-42-2P 390774-43-3P  
 390774-79-5P  
 RL: PNU (Preparation, unclassified); TEM (Technical or engineered  
 material use); PREP (Preparation); USES (Uses)  
 (emitter layers for organic **EL** devices)

IT 65181-78-4 124729-98-2  
 RL: TEM (Technical or engineered material use); USES (Uses)  
 (hole injection and transport layer; organic **EL** devices  
 containing dibenzo[kl,rst]benzo[6,7]fluoreno[9,1,2-cde]pentaphene  
 derivs. in emitter layers)

IT 390774-39-7P  
 RL: PNU (Preparation, unclassified); TEM (Technical or engineered  
 material use); PREP (Preparation); USES (Uses)  
 (organic **EL** devices containing dibenzo[kl,rst]benzo[6,7]fluoreno[9,1,2-cde]pentaphene derivs. in emitter layers)

IT 24601-13-6, Bis(2-methyl-8-quinolinolato)aluminum-μ-oxo-bis(2-  
 methyl-8-quinolinolato)aluminum 146162-48-3,  
 Bis(2,4-dimethyl-8-quinolinolato)aluminum-μ-oxo-bis(2,4-  
 dimethyl-8-quinolinolato)aluminum  
 RL: TEM (Technical or engineered material use); USES (Uses)  
 (organic **EL** devices containing dibenzo[kl,rst]benzo[6,7]fluoreno[9,1,2-cde]pentaphene derivs. in emitter layers)

IT 390774-44-4 390774-45-5 390774-46-6  
 390774-47-7 390774-48-8 390774-49-9  
 390774-50-2 390774-51-3 390774-52-4  
 390774-53-5 390774-54-6 390774-55-7  
 390774-56-8 390774-57-9 390774-58-0  
 390774-59-1 390774-60-4 390774-61-5  
 390774-62-6 390774-63-7 390774-64-8  
 390774-65-9 390774-66-0 390774-67-1  
 390774-68-2 390774-69-3 390774-70-6  
 390774-71-7 390774-72-8 390774-73-9  
 390774-74-0 390774-75-1 390774-76-2  
 390775-05-0  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (organic **EL** devices containing dibenzo[kl,rst]benzo[6,7]fluoreno[9,1,2-cde]pentaphene derivs. in emitter layers prepared from)

L54 ANSWER 36 OF 51 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2001:446670 HCAPLUS

DOCUMENT NUMBER: 135:195403

TITLE: Atropisomerism of the C-1-C'-1 Axis of

2,2',8,8'-Unsubstituted 1,1'-Binaphthyl  
Derivatives

AUTHOR(S): Chow, Hak-Fun; Wan, Chi-Wai  
CORPORATE SOURCE: Department of Chemistry, The Chinese  
University of Hong Kong, Shatin NT Hong Kong,  
Peop. Rep. China

SOURCE: Journal of Organic Chemistry (2001), 66(15),  
5042-5047  
CODEN: JOCEAH; ISSN: 0022-3263

PUBLISHER: American Chemical Society

DOCUMENT TYPE: Journal

LANGUAGE: English

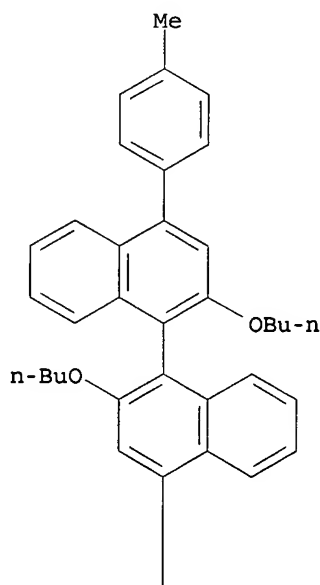
AB The Suzuki coupling of an optically active (S)-binaphthyl bromide  
with an (S)-binaphthylboronic acid produced a diastereomeric mixture  
of tetrahydroxyquaternaphthyls. The coupling products as well as  
their derivs. can be considered as members of the family of  
1,1'-binaphthyl-3,3'-diols. The C-1-C'-1 axis of all these  
compds. was found to have an unusually high rotational barrier.  
Generally, the barrier is higher for derivs. having more bulky  
substituents at the 3 and 3' positions.

IT **356548-74-8P**  
RL: RCT (Reactant); SPN (Synthetic preparation); PREP  
(Preparation); RACT (Reactant or reagent)  
(preparation and atropisomerism of the C-1-C'-1 axis of  
2,2',8,8'-unsubstituted 1,1'-binaphthyl derivs.)

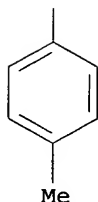
RN 356548-74-8 HCAPLUS

CN 1,1'-Binaphthalene, 2,2'-dibutoxy-4,4'-bis(4-methylphenyl)-, (1S)-  
(9CI) (CA INDEX NAME)

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CC 25-24 (Benzene, Its Derivatives, and Condensed Benzenoid Compounds)

IT 356548-71-5P 356548-72-6P 356548-74-8P 356548-75-9P  
356548-77-1P 356548-78-2P  
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)  
(preparation and atropisomerism of the C-1-C'-1 axis of 2,2',8,8'-unsubstituted 1,1'-binaphthyl derivs.)

REFERENCE COUNT: 18 THERE ARE 18 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L54 ANSWER 37 OF 51 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2001:156284 HCAPLUS

DOCUMENT NUMBER: 134:311517

TITLE: Optically Active Dendrimers with a Binaphthyl Core and Phenylene Dendrons: Light Harvesting and Enantioselective Fluorescent Sensing

AUTHOR(S): Gong, Liu-Zhu; Hu, Qiao-Sheng; Pu, Lin

CORPORATE SOURCE: Department of Chemistry, University of Virginia, Charlottesville, VA, 22904-4319, USA

SOURCE: Journal of Organic Chemistry (2001), 66(7), 2358-2367  
CODEN: JOCEAH; ISSN: 0022-3263

PUBLISHER: American Chemical Society

DOCUMENT TYPE: Journal

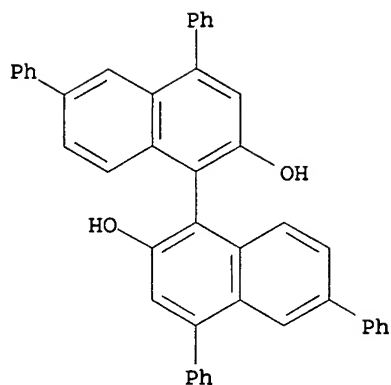
LANGUAGE: English

AB Optically active dendrimers containing a 1,1'-binaphthyl core and cross-conjugated phenylene dendrons were synthesized and characterized. The chiral optical properties of these phenylene-based dendrimers are different from the previously reported phenyleneethynylene-based dendrimers probably because of the increased steric interaction between the adjacent phenylene units. UV and fluorescence spectroscopic studies demonstrate that the energy harvested by the periphery of the dendrimers can be efficiently transferred to the more conjugated core, generating much enhanced fluorescence signal at higher generation. The fluorescence of these dendrimers can be quenched both efficiently and enantioselectively by chiral amino alcs. The energy migration and light-harvesting effects of the dendrimers make the higher generation dendrimer more sensitive to fluorescent quenchers than the lower ones. Thus, the dendritic structure provides a signal amplification mechanism. These materials are potentially useful in the enantioselective recognition of chiral organic mols.

IT 335320-65-5P 335320-66-6P  
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)  
(dendritic; light harvesting and enantioselective fluorescent sensing of optically active dendrimers with a binaphthyl core and phenylene dendrons)

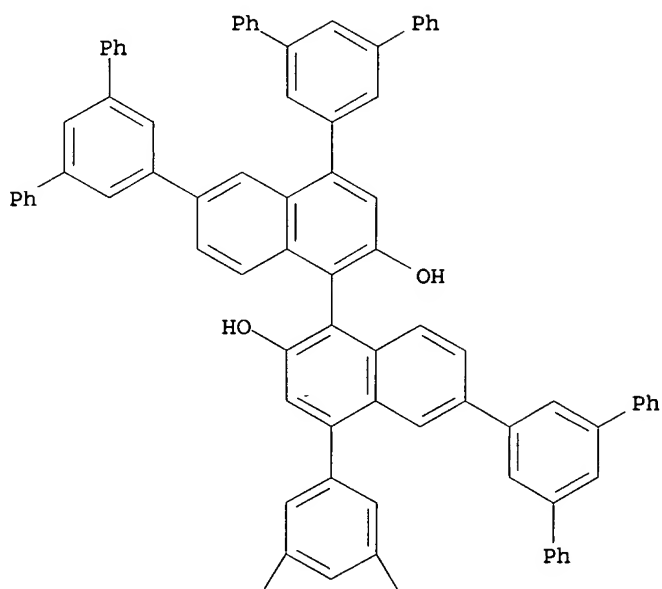
RN 335320-65-5 HCAPLUS

CN [1,1'-Binaphthalene]-2,2'-diol, 4,4',6,6'-tetraphenyl-, (1R)-(9CI) (CA INDEX NAME)



RN 335320-66-6 HCAPLUS  
 CN [1,1'-Binaphthalene]-2,2'-diol, 4,4',6,6'-tetrakis([1,1':3',1''-terphenyl]-5'-yl)-, (1R)- (9CI) (CA INDEX NAME)

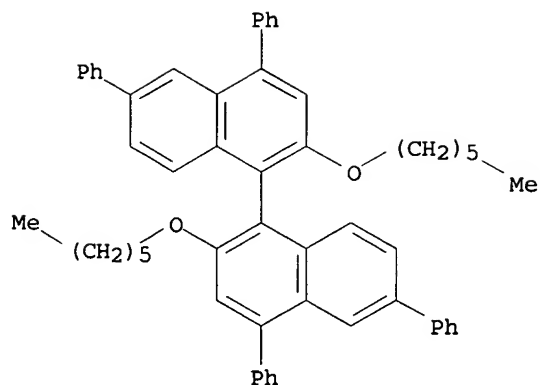
PAGE 1-A



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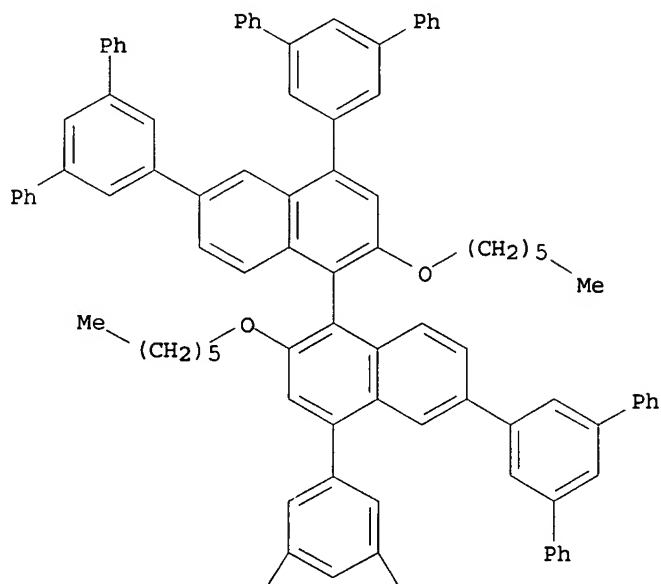


IT 335320-63-3P 335320-64-4P  
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP  
 (Preparation); RACT (Reactant or reagent)  
 (dendritic; light harvesting and enantioselective fluorescent  
 sensing of optically active dendrimers with a binaphthyl core  
 and phenylene dendrons)  
 RN 335320-63-3 HCAPLUS  
 CN 1,1'-Binaphthalene, 2,2'-bis(hexyloxy)-4,4',6,6'-tetraphenyl-,  
 (1R)- (9CI) (CA INDEX NAME)

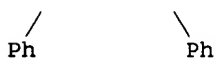


RN 335320-64-4 HCAPLUS  
 CN 1,1'-Binaphthalene, 2,2'-bis(hexyloxy)-4,4',6,6'-  
 tetrakis([1,1':3',1''-terphenyl]-5'-yl)-, (1R)- (9CI) (CA INDEX  
 NAME)

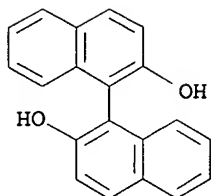
PAGE 1-A



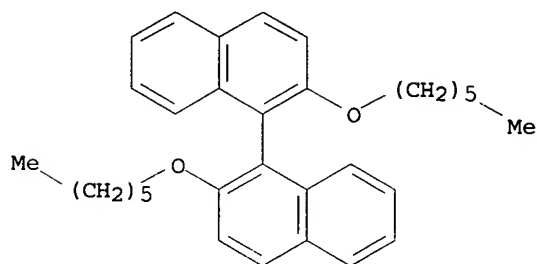
PAGE 2-A



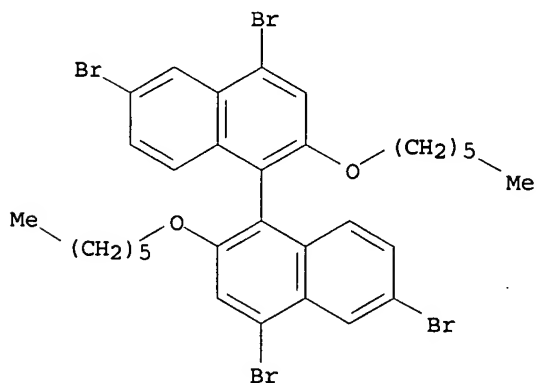
IT 18531-94-7, (R)-BINOL  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (light harvesting and enantioselective fluorescent sensing of  
 optically active dendrimers with a binaphthyl core and  
 phenylene dendrons)  
 RN 18531-94-7 HCAPLUS  
 CN [1,1'-Binaphthalene]-2,2'-diol, (1R)- (9CI) (CA INDEX NAME)



IT 335320-61-1P 335320-62-2P  
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)  
 (light harvesting and enantioselective fluorescent sensing of optically active dendrimers with a binaphthyl core and phenylene dendrons)  
 RN 335320-61-1 HCAPLUS  
 CN 1,1'-Binaphthalene, 2,2'-bis(hexyloxy)-, (1R)- (9CI) (CA INDEX NAME)



RN 335320-62-2 HCAPLUS  
 CN 1,1'-Binaphthalene, 4,4',6,6'-tetrabromo-2,2'-bis(hexyloxy)-, (1R)- (9CI) (CA INDEX NAME)



CC 35-7 (Chemistry of Synthetic High Polymers)  
 Section cross-reference(s): 36, 73  
 IT 335241-44-6P 335320-65-5P 335320-66-6P  
 RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)  
 (dendritic; light harvesting and enantioselective fluorescent sensing of optically active dendrimers with a binaphthyl core and phenylene dendrons)  
 IT 335320-63-3P 335320-64-4P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent) (dendritic; light harvesting and enantioselective fluorescent sensing of optically active dendrimers with a binaphthyl core and phenylene dendrons)

IT 75-77-4, Trimethylsilyl chloride, reactions 98-80-6, Phenylboronic acid 111-25-1, 1-Bromohexane 626-39-1, 1,3,5-Tribromobenzene 18531-94-7, (R)-BINOL

RL: RCT (Reactant); RACT (Reactant or reagent) (light harvesting and enantioselective fluorescent sensing of optically active dendrimers with a binaphthyl core and phenylene dendrons)

IT 17878-23-8P, 3,5-Dibromo-1-trimethylsilylbenzene 128388-54-5P 128388-56-7P 335320-61-1P 335320-62-2P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent) (light harvesting and enantioselective fluorescent sensing of optically active dendrimers with a binaphthyl core and phenylene dendrons)

REFERENCE COUNT: 63 THERE ARE 63 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L54 ANSWER 38 OF 51 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2001:122151 HCAPLUS

DOCUMENT NUMBER: 137:201133

TITLE: Synthesis of configurationally defined sexi- and octinaphthalene derivatives. [Erratum to document cited in CA134:207596]

AUTHOR(S): Fuji, Kaoru; Furuta, Takumi; Tanaka, Kiyoshi

CORPORATE SOURCE: Institute for Chemical Research, Kyoto University, Uji Kyoto, 611-0011, Japan

SOURCE: Organic Letters (2001), 3(6), 961-962

CODEN: ORLEF7; ISSN: 1523-7060

PUBLISHER: American Chemical Society

DOCUMENT TYPE: Journal

LANGUAGE: English

AB On pages 170-171, the captions for schemes 1-3 were omitted; the complete schemes are given.

IT 328235-19-4P 328235-27-4P 328235-30-9P 328379-65-3P 328379-67-5P 328379-71-1P

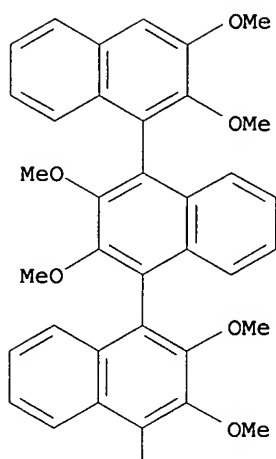
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation) (synthesis of configurationally defined sexi- and octinaphthalene derivs. via oxidative coupling reaction of quaternaphthalenes with hydroxynaphthol moiety (Erratum))

RN 328235-19-4 HCAPLUS

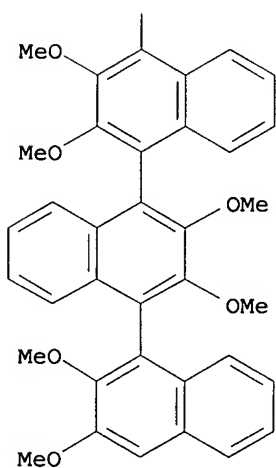
CN 1,1':4',1'':4'',1''':4''',1''':4''',1''':4''':-Sexinaphthalene, 2,2',2'',2''',2''':3,3',3'',3''',3''':3''':-dodecamethoxy-, (1S,1''S,1''':S,1''':S,1''':S)- (9CI) (CA INDEX NAME)



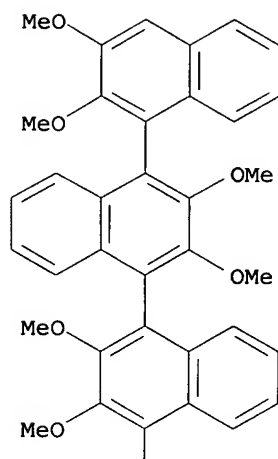
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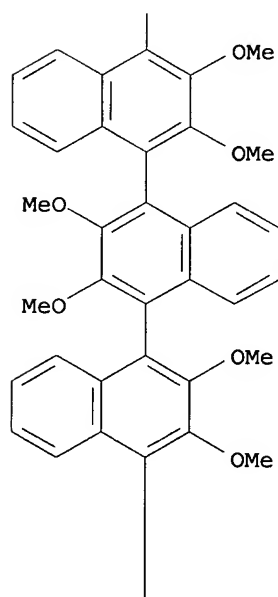
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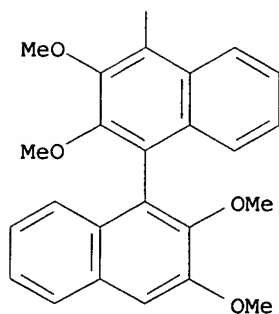
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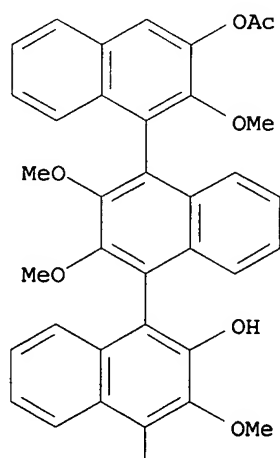


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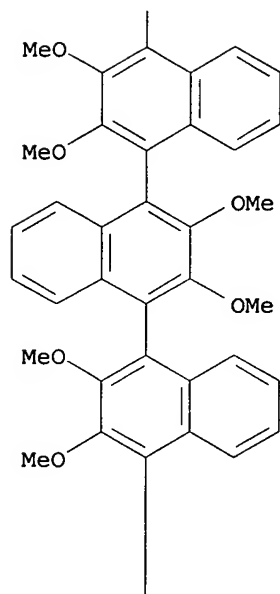


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RN      328235-30-9   HCAPLUS
CN      [1,1':4'',1'':4''',1'''':4''''',1'''''':4''''',1''''''':4''''''
        '',1'''''''''-Octinaphthalene]-2'',3,3''''''''-triol,
        2,2'',2''',2''''',2''''',2''''',2''''',3'',3'',3''',3''''',3''''',3
        ''''''-tridecamethoxy-, 3,3''''''''-diacetate,
        (1S,1''R,1''''S,1'''''S,1''''''S,1''''''S,1''''''S)- (9CI)  (CA
INDEX NAME)
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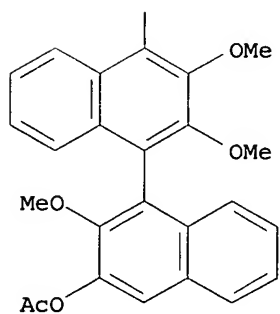
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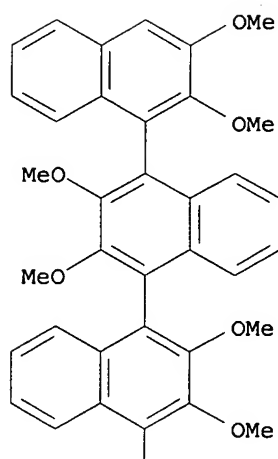


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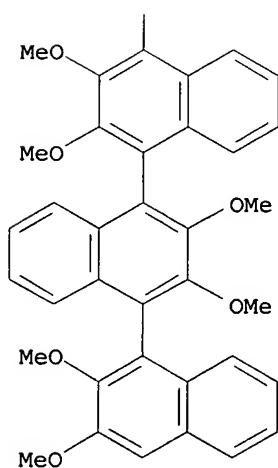


RN 328379-65-3 HCAPLUS  
 CN 1,1':4',1'':4'',1''':4''',1''':4''',1''':4'''-Sexinaphthalene,  
 2,2',2'',2''',2''':2''',3,3',3'',3''',3''':3'''-  
 dodecamethoxy-, (1S,1''S,1''':R,1''':S,1''':S)- (9CI) (CA INDEX  
 NAME)

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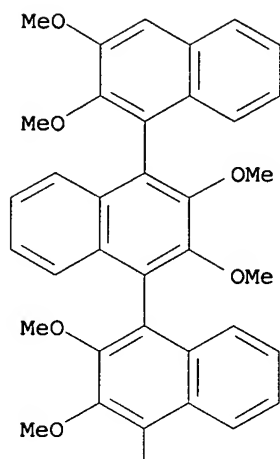
PAGE 2-A



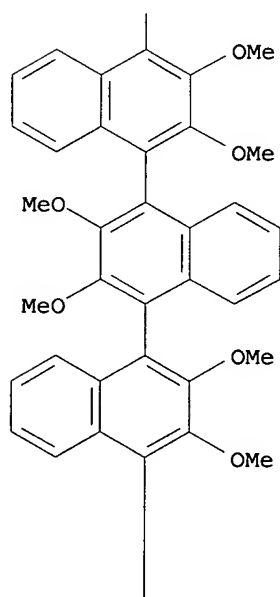
RN 328379-67-5 HCAPLUS  
 CN [1,1':4',1'':4'',1''':4''',1''':4''',1''':4'''-Sexinaphthalene] -  
 3,3''''-diol, 2,2',2'',2''',2''',2''',2''',2''',3',3'',3''',3''''-  
 decamethoxy-, diacetate, (1S,1'R,1''S,1''''S,1''''S)- (9CI)  
 (CA INDEX NAME)

571-272-2538

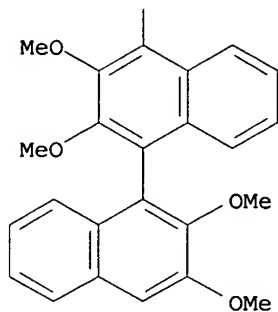
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IT 328235-16-1P 328235-17-2P 328235-18-3P  
 328235-20-7P 328235-21-8P 328235-23-0P  
 328235-24-1P 328235-25-2P 328235-26-3P  
 328235-28-5P 328235-29-6P 328379-62-0P  
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 328379-72-2P

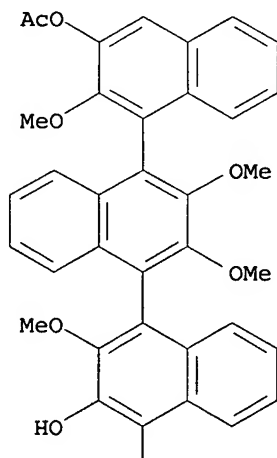
RL: RCT (Reactant); SPN (Synthetic preparation); PREP  
 (Preparation); RACT (Reactant or reagent)

(synthesis of configurationally defined sexi- and  
 octinaphthalene derivs. via oxidative coupling reaction of  
 quaternaphthalenes with hydroxynaphthol moiety (Erratum))

RN 328235-16-1 HCAPLUS

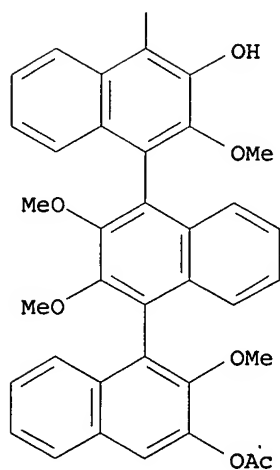
CN [1,1':4',1'':4'',1''':4''',1''':4''',1''':4'''-Sexinaphthalene]-  
 2'',3,3'',3''''-tetrol, 2,2',2'',2''',2''',2''',3',3'',3''''-  
 octamethoxy-, 3,3''''-diacetate, (1S,1''S,1''''S,1''''S,1''''S,1''''S)-  
 (9CI) (CA INDEX NAME)

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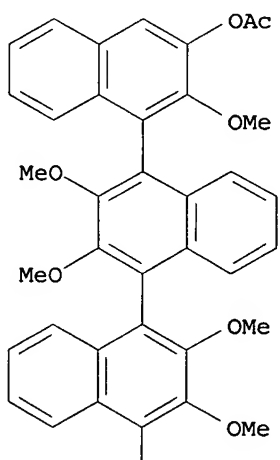


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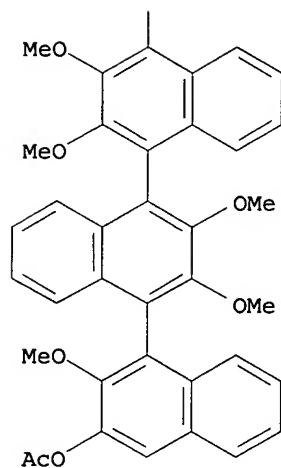


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 (CA INDEX NAME)

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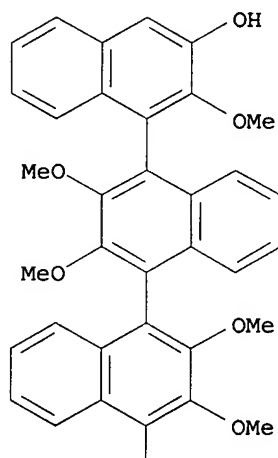


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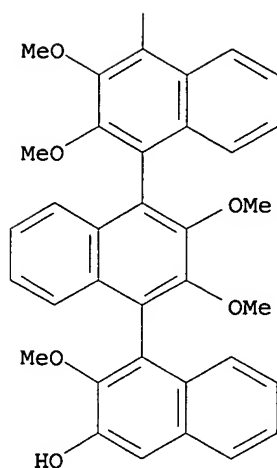


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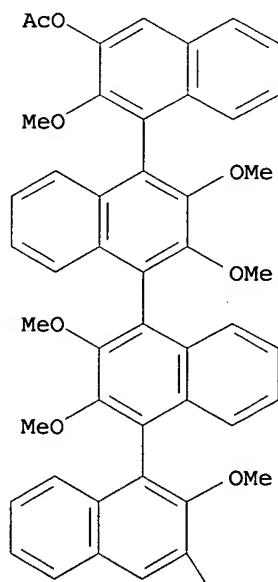


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RN 328235-20-7 HCAPLUS  
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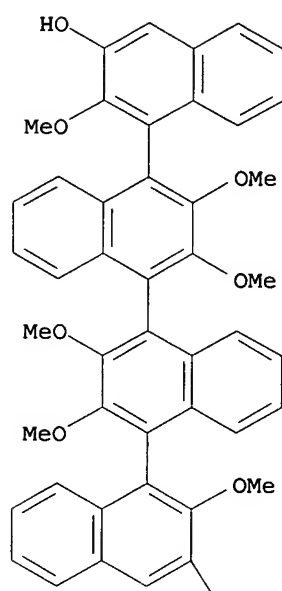


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RN 328235-21-8 HCAPLUS  
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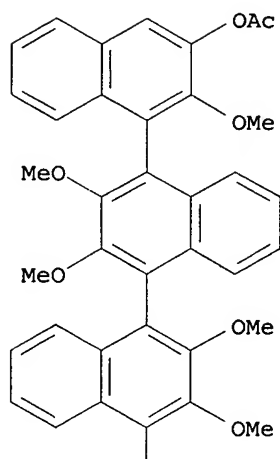
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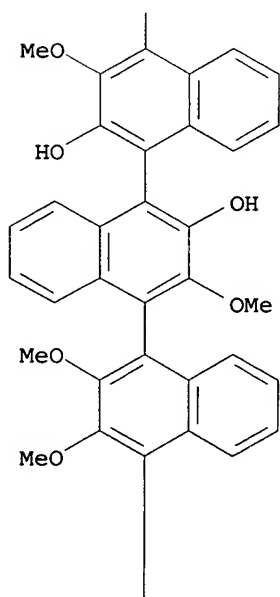
RN 328235-23-0 HCAPLUS  
 CN [1,1':4',1'':4'',1''':4''',1''':4''',1''':4'''-Sexinaphthalene]-  
 2'',3,3',3''':3''''-tetrol, 2,2',2'',2''',2''',2''',3'',3''',3''''-  
 octamethoxy-, 3,3''':3''''-diacetate, (1S,1''S,1''':S,1''':S,1''':S)-  
 (9CI) (CA INDEX NAME)

571-272-2538

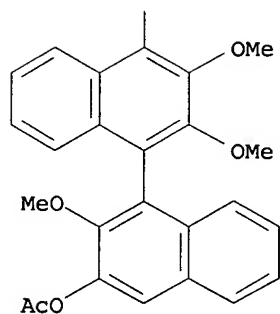
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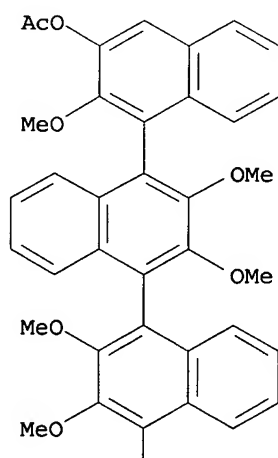


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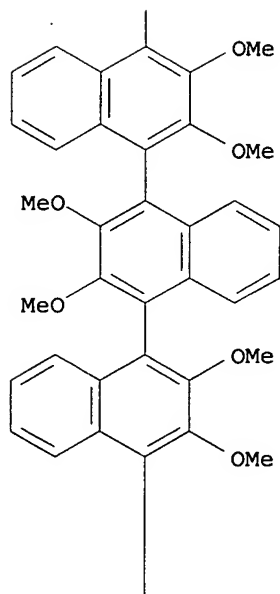


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        '',3'''''-tetradecamethoxy-, diacetate,
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INDEX NAME)
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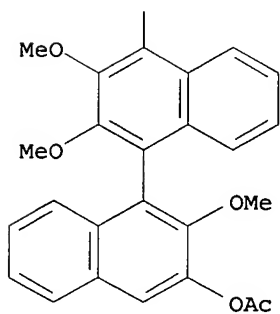
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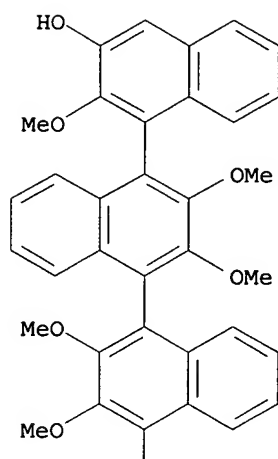
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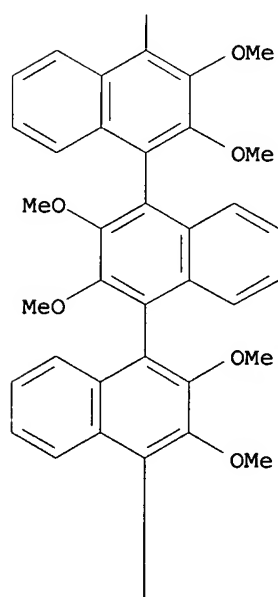
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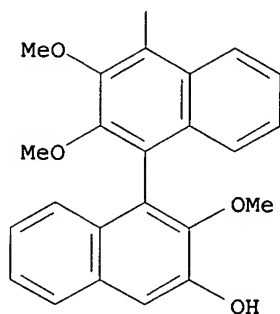
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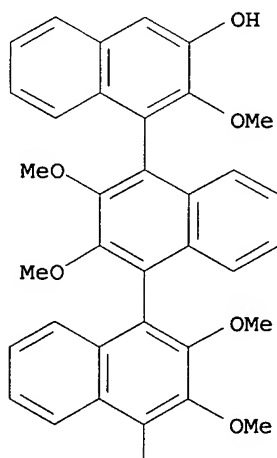


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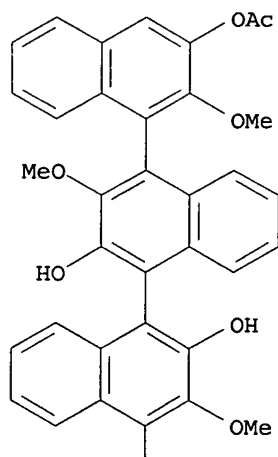
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 (CA INDEX NAME)

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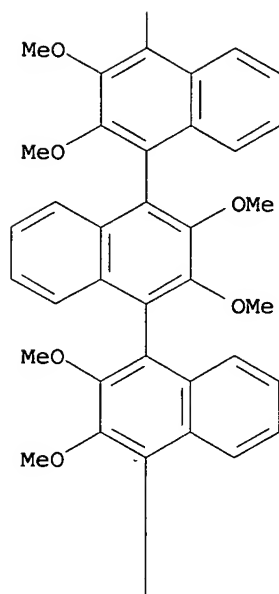


The chemical structure shows a central naphthalene ring system. At the 1-position, there is a 4-methoxyphenyl group (a benzene ring with a methoxy group, -OMe, at the para position). At the 2-position, there is a 4-methoxyphenyl group (a benzene ring with a methoxy group, -OMe, at the para position). At the 4-position of the naphthalene ring, there is a methoxy group (-OMe). At the 5-position, there is an acetoxy group (-OAc). The naphthalene ring has double bonds at positions 1-2, 3-4, 5-6, and 7-8.

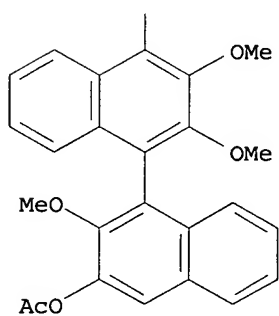
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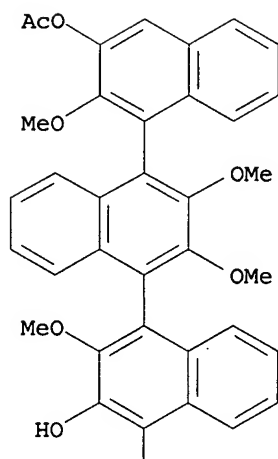


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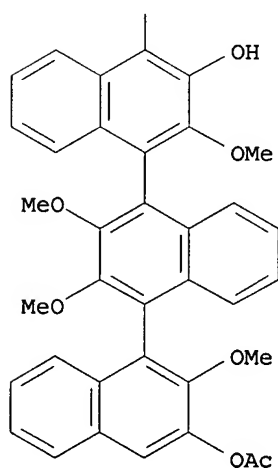


RN 328379-62-0 HCAPLUS  
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 2''',3,3'',3''''-tetrol, 2,2',2'',2''',2''''',3',3'',3''''-  
 octamethoxy-, 3,3''''-diacetate, (1S,1''S,1''''R,1''''':S,1''''':S)-  
 (9CI) (CA INDEX NAME)

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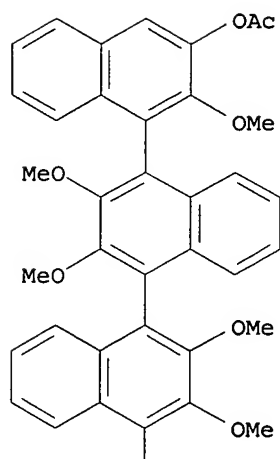


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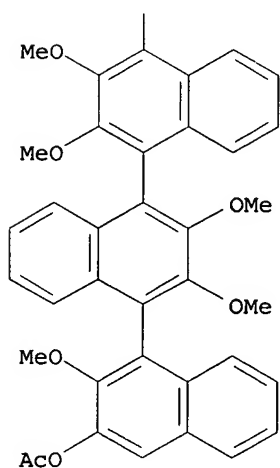


RN 328379-63-1 HCAPLUS  
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 3,3''''''-diol, 2,2',2'',2''',2''',2''',2''',2''',3',3'',3''',3''''-  
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 (CA INDEX NAME)

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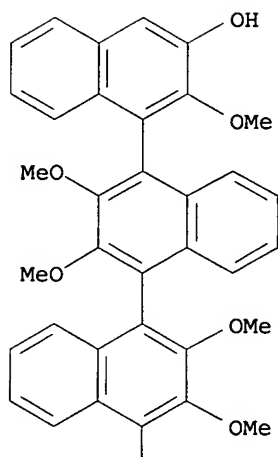


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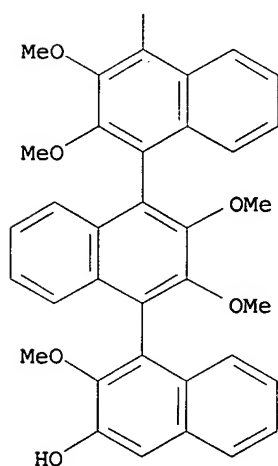


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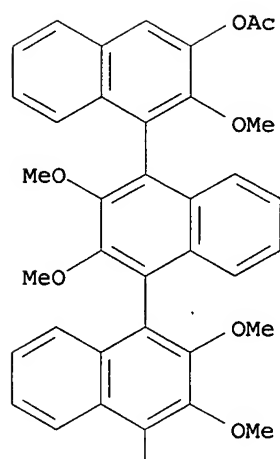


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 2'',3,3',3''''-tetrol, 2,2',2'',2''',2''',2''',3'',3'',3'''-  
 octamethoxy-, 3,3''''-diacetate, (1S,1''R,1''S,1''S,1''S)-  
 (9CI) (CA INDEX NAME)

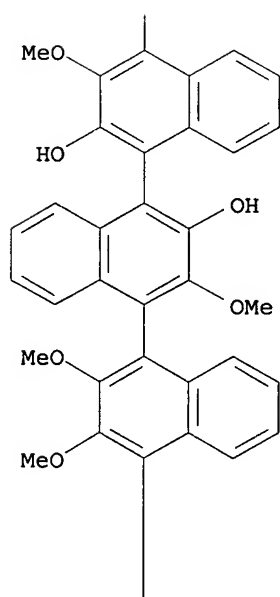
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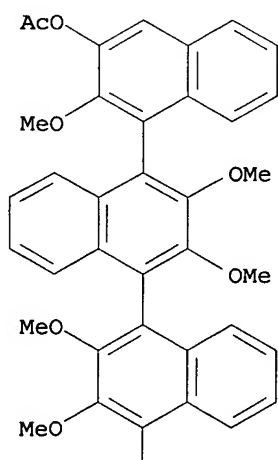
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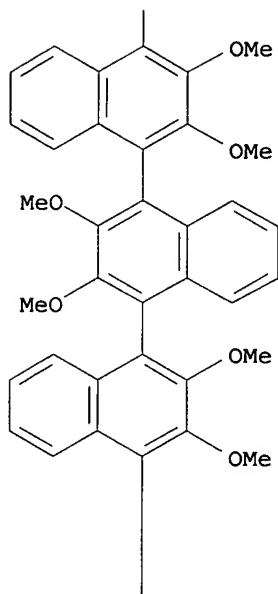
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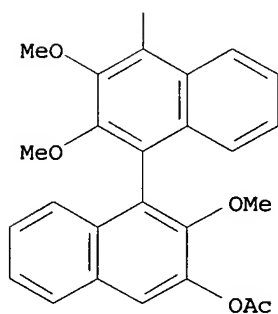
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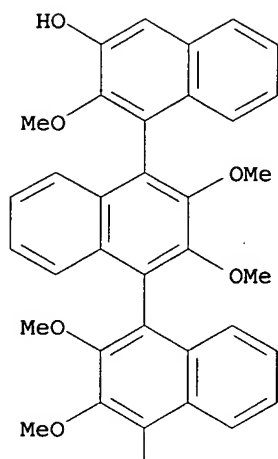


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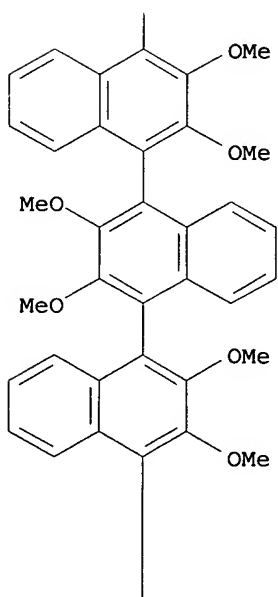



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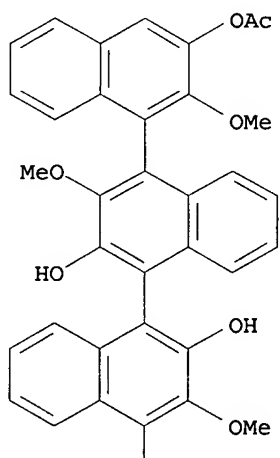
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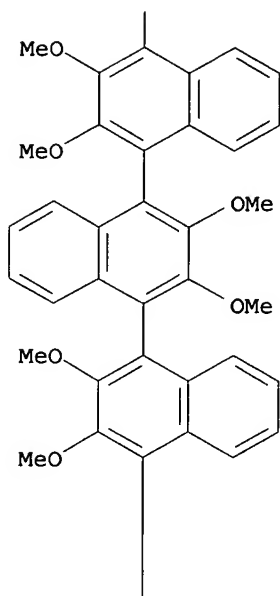


The chemical structure shows a fluorenylidene group. The fluorene moiety is substituted with two methoxy (MeO) groups at the 6 and 7 positions and a hydroxy (OH) group and another methoxy (OMe) group at the 2' position. The central carbon of the fluorene is double-bonded to a CH group, which is part of a larger system (indicated by a line extending upwards).

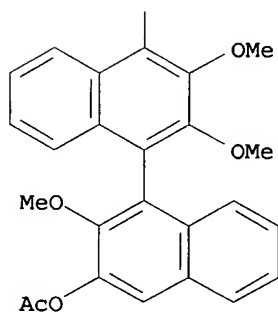
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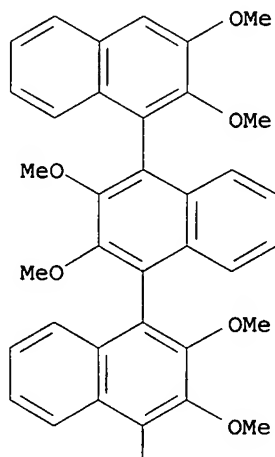


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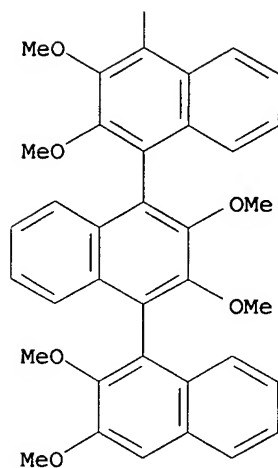


- CC 25-24 (Benzene, Its Derivatives, and Condensed Benzenoid Compounds)
- IT 328235-19-4P 328235-27-4P 328235-30-9P  
 328379-65-3P 328379-67-5P 328379-71-1P  
 RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)  
 (synthesis of configurationally defined sexi- and octinaphthalene derivs. via oxidative coupling reaction of quaternaphthalenes with hydroxynaphthol moiety (Erratum))
- IT 183015-38-5P 328235-15-0P 328235-16-1P  
 328235-17-2P 328235-18-3P 328235-20-7P  
 328235-21-8P 328235-23-0P 328235-24-1P  
 328235-25-2P 328235-26-3P 328235-28-5P  
 328235-29-6P 328379-62-0P 328379-63-1P  
 328379-64-2P 328379-66-4P 328379-68-6P  
 328379-69-7P 328379-70-0P 328379-72-2P  
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)  
 (synthesis of configurationally defined sexi- and octinaphthalene derivs. via oxidative coupling reaction of quaternaphthalenes with hydroxynaphthol moiety (Erratum))

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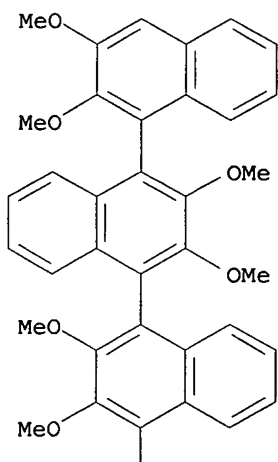


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        ',3,3',3'',3''',3''',3''',3''',3''',3''',3''',3''',3''',3''',3''',3''',
        '(1S,1'S,1'':S,1'':S,1'':S,1'':S,1'':S,1'':S)- (9CI) (CA
INDEX NAME)
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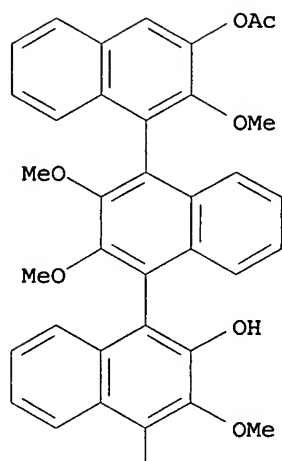




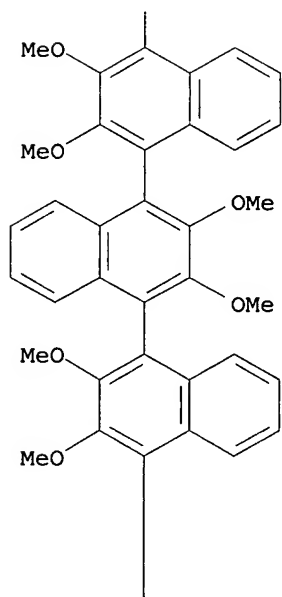
The chemical structure shows a central naphthalene unit connected at its 1-position to the 4-position of another naphthalene unit. This second naphthalene unit has two methoxy (OMe) groups at its 1 and 2 positions. The 4-position of the second naphthalene unit is connected to the 1-position of a third naphthalene unit. This third naphthalene unit also has two methoxy (OMe) groups at its 1 and 2 positions. The structure is symmetrical and represents a dendritic molecule with three naphthalene units and six methoxy groups.

571-272-2538

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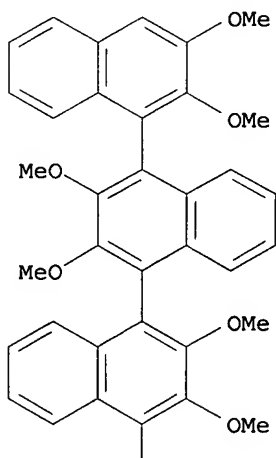


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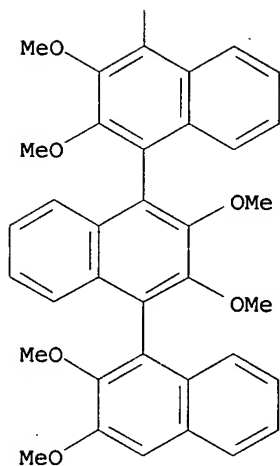


Chemical structure of compound 10: A biphenyl derivative. The left phenyl ring is substituted with two methoxy groups (OMe) at the 2 and 6 positions. The right phenyl ring is substituted with a methoxy group (MeO) at the 3 position and an acetoxy group (AcO) at the 4 position. The two rings are connected at their 1 and 4 positions.

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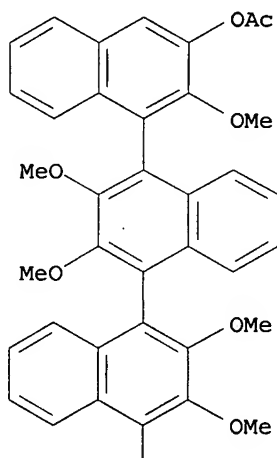


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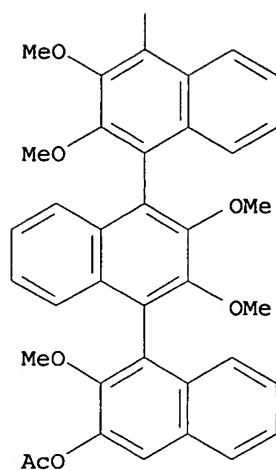


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3,3''''-diol, 2,2',2'',2''',2''',2''',2''',2''',3',3'',3''',3''''-  
decamethoxy-, diacetate, (1S,1''R,1''''S,1''''S,1''''S)- (9CI)  
(CA INDEX NAME)

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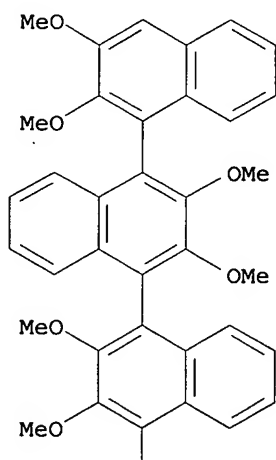


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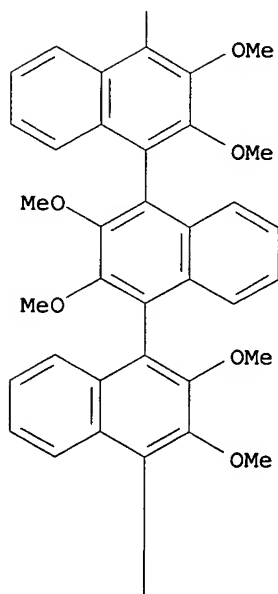


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 '1''''''-Octinaphthalene, 2,2',2'',2''',2''''',2''''',2''''',2''  
 ''',3,3',3'',3''',3''''',3''''',3''''',3'''''-hexadecamethoxy-  
 , (1S,1''S,1''''S,1''''R,1''''S,1''''S,1''''S)- (9CI) (CA  
 INDEX NAME)

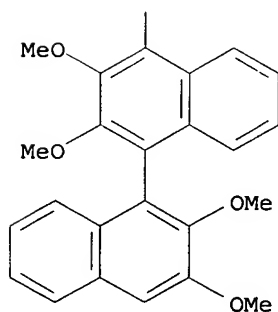
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IT 328235-16-1P 328235-17-2P 328235-18-3P  
 328235-20-7P 328235-21-8P 328235-23-0P  
 328235-24-1P 328235-25-2P 328235-26-3P  
 328235-28-5P 328235-29-6P 328379-62-0P  
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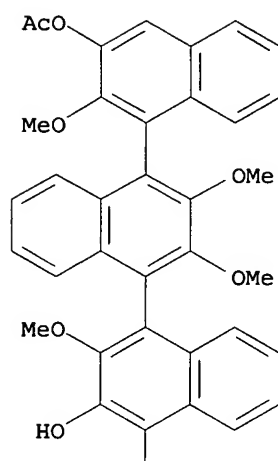
RL: RCT (Reactant); SPN (Synthetic preparation); PREP  
 (Preparation); RACT (Reactant or reagent)

(synthesis of configurationally defined sexi- and  
 octinaphthalene derivs. via oxidative coupling reaction of  
 quaternaphthalenes with hydroxynaphthol moiety)

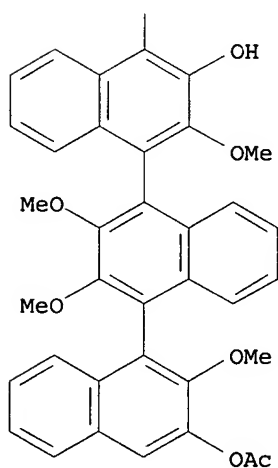
RN 328235-16-1 HCAPLUS

CN [1,1':4',1'':4'',1''':4''',1''':4''',1''':4'''-Sexinaphthalene]-  
 2'',3,3',3''''-tetrol, 2,2',2'',2''',2''',2''',3',3''',3''''-  
 octamethoxy-, 3,3''''-diacetate, (1S,1''S,1''''S,1''''S,1''''S,1''''S)-  
 (9CI) (CA INDEX NAME)

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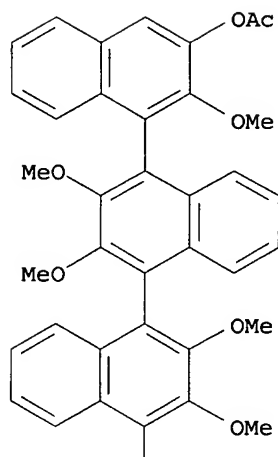


PAGE 2-A

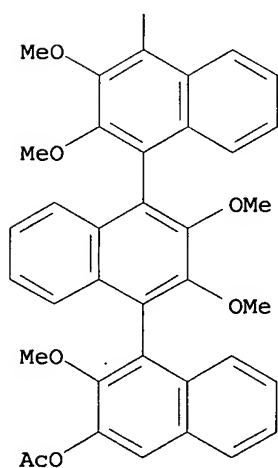


RN 328235-17-2 HCAPLUS  
 CN [1,1':4',1'':4'',1''':4''',1''':4''',1''':4'''-Sexinaphthalene]-  
 3,3''''-diol, 2,2',2'',2''',2''',2''',2''',2''',3',3'',3''',3''''-  
 decamethoxy-, diacetate, (1S,1''S,1''''S,1''''S,1''''S)- (9CI)  
 (CA INDEX NAME)

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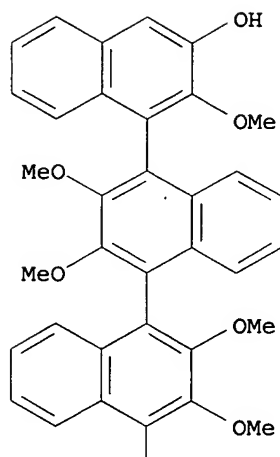
PAGE 2-A



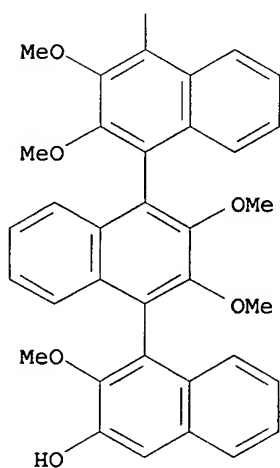
RN 328235-18-3 HCAPLUS  
 CN [1,1':4',1'':4'',1''':4''',1''':4''',1''':4'''-Sexinaphthalene]-  
 3,3''''-diol, 2,2',2'',2''',2''',2''',2''',2''',3',3'',3''',3''''-  
 decamethoxy-, (1S,1''S,1''''S,1''''''S)- (9CI) (CA INDEX  
 NAME)



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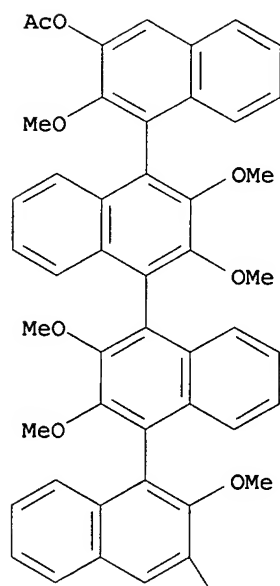


PAGE 2-A



RN 328235-20-7 HCAPLUS  
CN [1,1':4',1'':4'',1''':4'''-Quaternaphthalene]-3,3'''-diol,  
2,2',2'',2''',3',3'''-hexamethoxy-, diacetate, (1S,1''S,1'''S)-  
(9CI) (CA INDEX NAME)

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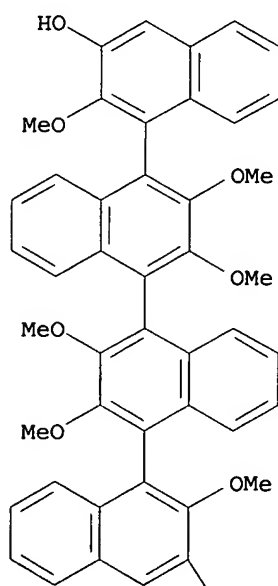


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RN 328235-21-8 HCAPLUS  
 CN [1,1':4',1'':4'',1'''-Quaternaphthalene]-3,3'''-diol,  
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 (9CI) (CA INDEX NAME)

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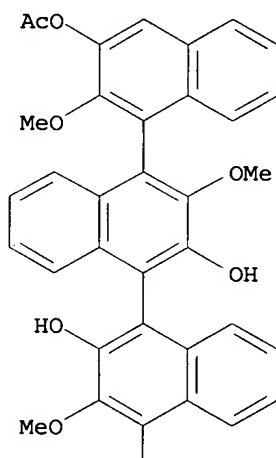


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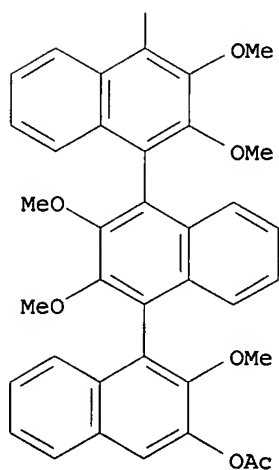


RN 328235-23-0 HCAPLUS  
 CN [1,1':4',1'':4'',1''':4''',1''':4''',1''':4'''-Sexinaphthalene]-  
 2'',3,3',3''''-tetrol, 2,2',2'',2''',2''',2''',3'',3'',3''''-  
 octamethoxy-, 3,3''''-diacetate, (1S,1''S,1''''S,1''''S)-  
 (9CI) (CA INDEX NAME)

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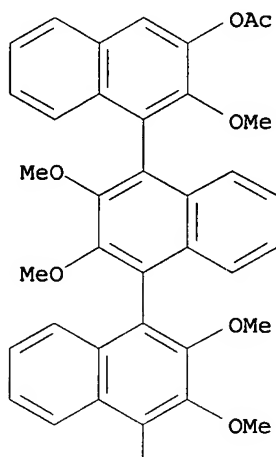


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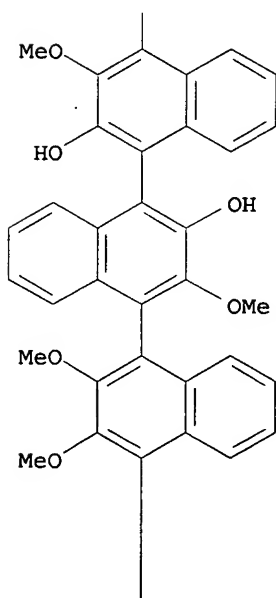


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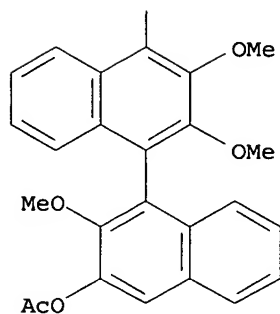
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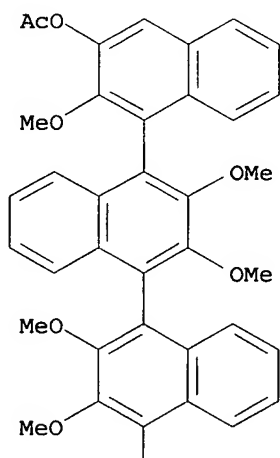


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RN      328235-25-2  HCAPLUS
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        2,2'',2'',2''',2''''',2''''',2''''',2''''',3'',3'',3''',3''''',3''''
        ',3''''''-tetradecamethoxy-, diacetate,
        (1S,1''S,1''''S,1'''''S,1''''''S,1''''''S,1''''''S)- (9CI)  (CA
INDEX NAME)

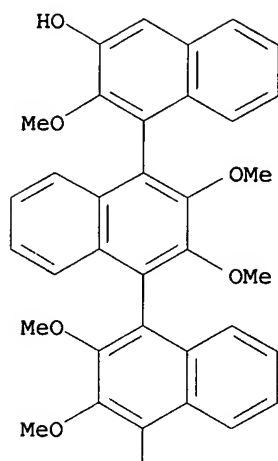
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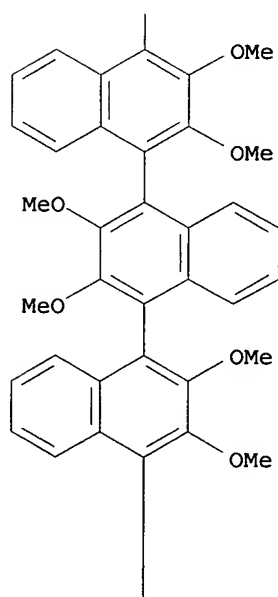


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        ',1'''''''''-Octinaphthalene]-3,3''''''''-diol,
        2,2',2'',2''',2''''',2'''''',2''''''',3',3'',3''',3''''',3'''''',
        ',3''''''''-tetradecamethoxy-, (1S,1''S,1'''S,1''''S,1'''''S,1''''''S,1'''''''S)-
        'S,1''''''''S)- (9CI)    (CA INDEX NAME)
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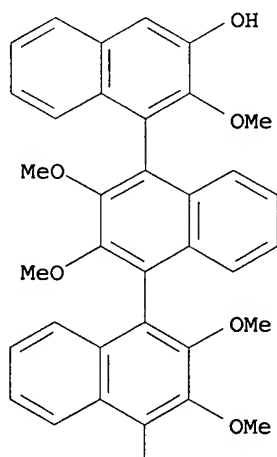


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Chemical structure of 6,7-dimethoxy-2'-hydroxy-2-methylflavone. The structure consists of a chromone core with a methyl group at C2, methoxy groups at C6 and C7, and a hydroxy group at C2'.

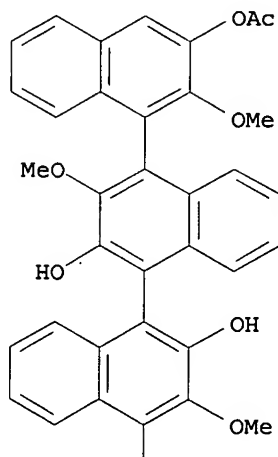
PAGE 1-A





Chemical structure of compound 10: A central biphenyl core with a 2,6-dimethoxyphenyl group at position 1, a 2,6-dimethoxyphenyl group at position 4, and a 2-methoxy-6-acetoxyphe-nyl group at position 2.

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The chemical structure shows a central carbon-carbon bond connecting two 2,6-dimethoxyphenyl groups. Each phenyl ring has two methoxy (MeO) groups at the 2 and 6 positions relative to the central bond. The structure is drawn in a perspective view with some double bonds explicitly shown on the rings.

571-272-2538

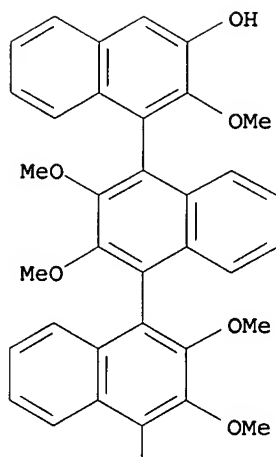
571-272-2538

Chemical structure of compound 10: A central biphenyl core with a 2-acetoxy-2-methoxyphenyl group at position 1, a 3,4-dimethoxyphenyl group at position 4, and a 2,6-dimethoxyphenyl group at position 1'.

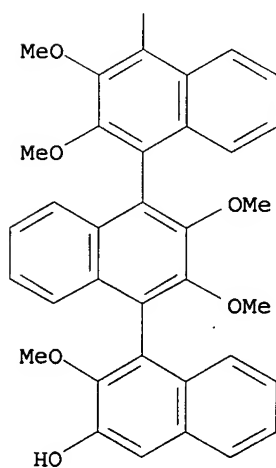
Chemical structure of compound 10: A central biphenyl core with a 3,4-dimethoxyphenyl group at position 1, a 3,4-dimethoxyphenyl group at position 4, and a 3-methoxy-4-acetoxyphenyl group at position 2.

571-272-2538

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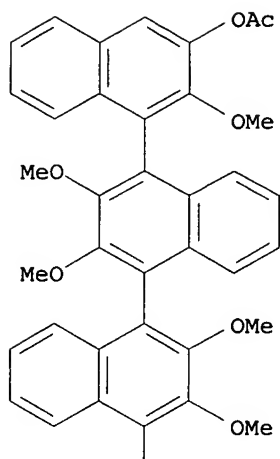


RN 328379-66-4 HCAPLUS  
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 2'',3,3',3''''-tetrol, 2,2',2'',2''',2''',2''',3'',3''',3''''-  
 octamethoxy-, 3,3''''-diacetate, (1S,1''R,1''S,1''S,1''S,1''S)-  
 (9CI) (CA INDEX NAME)

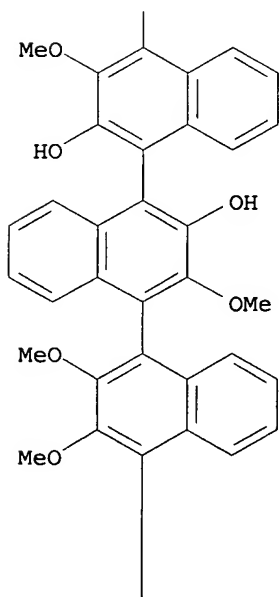
COc1cc(OC)c2cc3cc(OC)c(OC)c3cc2c1-c1ccc2cc(OC)c(OC)c2cc1

571-272-2538

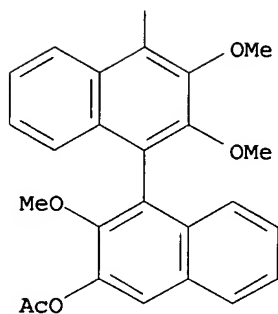
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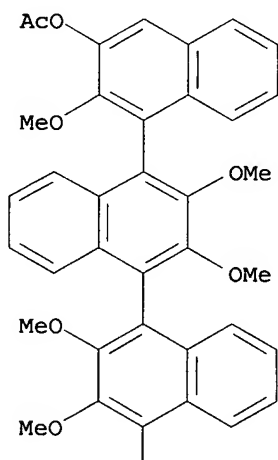


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RN      328379-69-7   HCAPLUS
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        ',1''''''-Octinaphthalene]-3,3''''''-diol,
        2,2',2'',2''',2''',2''',2''',2''',2''',2''',3',3'',3''',3''',3''',
        ',3''''''-tetradecamethoxy-, diacetate,
        (1S,1''S,1''''S,1''''R,1''''S,1''''S,1''''S,1''''S)- (9CI) (CA
INDEX NAME)

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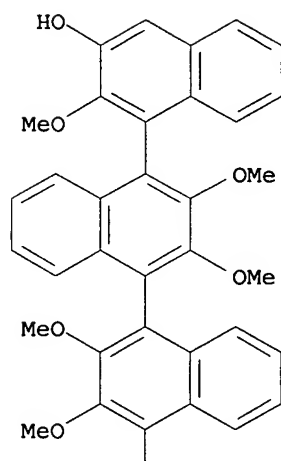
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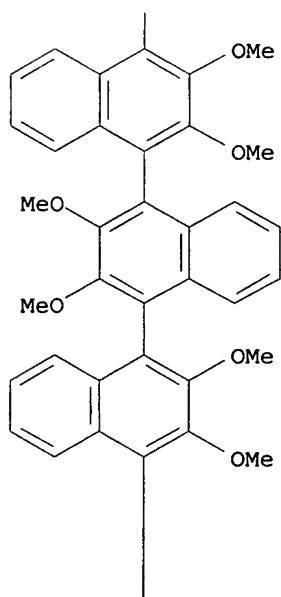


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RN      328379-70-0   HCAPLUS
CN      [1,1':4'',1'':4''',1'''':4''''',1'''''':4''''',1''''':4''''',
        '',1'''''''''-Octinaphthalene]-3,3''''''''-diol,
        2,2',2'',2'''',2'''''',2''''''',3',3'',3''',3''''',3'''''
        ',3''''''''-tetradecamethoxy-, (1S,1''S,1'''S,1''''R,1'''''S,1''''''
        'S,1''''''')S)- (9CI) (CA INDEX NAME)
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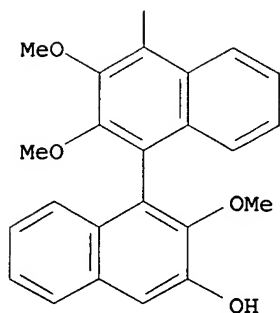
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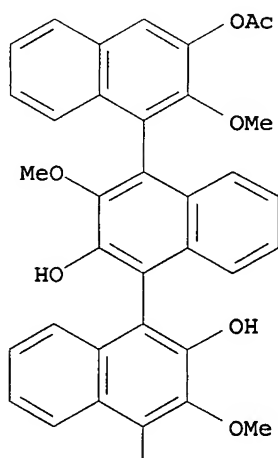


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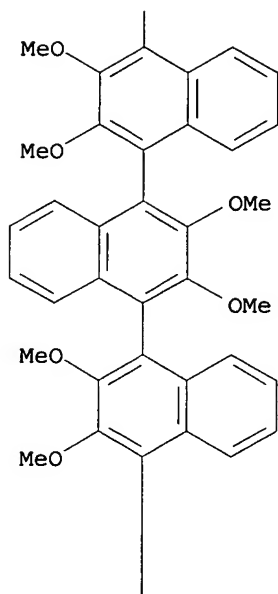


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RN      328379-72-2   HCAPLUS
CN      [1,1':4'',1'':4''',1'''':4''''',1''''':4''''',1''''':4''''',
        '',1''''''''-Octinaphthalene]-2'',3,3',3''''''-tetrol,
        2,2',2''',2''''',2''''',2''''',3'',3''',3''''',3''''',3''''
        ''-dodecamethoxy-, 3,3''''''-diacetate,
        (1S,1''R,1''''S,1'''''S,1''''''S,1''''''S,1''''''S)- (9CI)  (CA
INDEX NAME)
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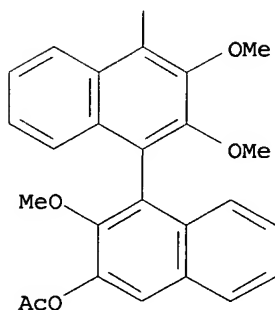
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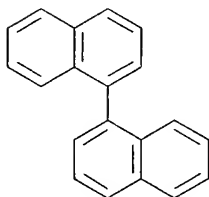
PAGE 3-A



- CC 25-24 (Benzene, Its Derivatives, and Condensed Benzenoid Compounds)
- IT 328235-19-4P 328235-27-4P 328235-30-9P  
 328379-65-3P 328379-67-5P 328379-71-1P  
 RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)  
 (synthesis of configurationally defined sexi- and octinaphthalene derivs. via oxidative coupling reaction of quaternaphthalenes with hydroxynaphthol moiety)
- IT 183015-38-5P 328235-15-0P 328235-16-1P  
 328235-17-2P 328235-18-3P 328235-20-7P  
 328235-21-8P 328235-23-0P 328235-24-1P  
 328235-25-2P 328235-26-3P 328235-28-5P  
 328235-29-6P 328379-62-0P 328379-63-1P  
 328379-64-2P 328379-66-4P 328379-68-6P  
 328379-69-7P 328379-70-0P 328379-72-2P  
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)  
 (synthesis of configurationally defined sexi- and octinaphthalene derivs. via oxidative coupling reaction of quaternaphthalenes with hydroxynaphthol moiety)

REFERENCE COUNT: 22 THERE ARE 22 CITED REFERENCES AVAILABLE  
FOR THIS RECORD. ALL CITATIONS AVAILABLE  
IN THE RE FORMAT

L54 ANSWER 40 OF 51 HCAPLUS COPYRIGHT 2006 ACS on STN  
ACCESSION NUMBER: 2000:819794 HCAPLUS  
DOCUMENT NUMBER: 134:71918  
TITLE: Synthesis and application of chiral conjugated  
polymers and dendrimers  
AUTHOR(S): Pu, Lin  
CORPORATE SOURCE: Department of Chemistry, University of  
Virginia, Charlottesville, VA, 22901, USA  
SOURCE: Materials Research Society Symposium  
Proceedings (2000), 598(Electrical, Optical,  
and Magnetic Properties of Organic Solid-State  
Materials V), BB5.3/1-BB5.3/4  
CODEN: MRSPDH; ISSN: 0272-9172  
PUBLISHER: Materials Research Society  
DOCUMENT TYPE: Journal; General Review  
LANGUAGE: English  
AB A review with 11 refs. 1,1'-Binaphthyl-based chiral polymers and  
dendrimers have been synthesized and their potential applications  
have been explored. These materials have shown a variety of  
interesting properties such as **electroluminescence**,  
optical nonlinearity, enantioselective catalysis and chiral  
sensing.  
IT 604-53-5DP, 1,1'-Binaphthyl, derivs., polymers  
RL: PRP (Properties); SPN (Synthetic preparation); PREP  
(Preparation)  
(synthesis and application of chiral conjugated polymers and  
dendrimers)  
RN 604-53-5 HCAPLUS  
CN 1,1'-Binaphthalene (9CI) (CA INDEX NAME)



CC 35-0 (Chemistry of Synthetic High Polymers)  
Section cross-reference(s): 36, 73, 76  
ST binaphthyl chiral dendrimer synthesis **electroluminescence**  
nonlinear optical property review  
IT Luminescence, **electroluminescence**  
Nonlinear optical susceptibility  
(second-order; synthesis and application of chiral conjugated  
polymers and dendrimers)  
IT 604-53-5DP, 1,1'-Binaphthyl, derivs., polymers  
RL: PRP (Properties); SPN (Synthetic preparation); PREP  
(Preparation)  
(synthesis and application of chiral conjugated polymers and  
dendrimers)  
REFERENCE COUNT: 17 THERE ARE 17 CITED REFERENCES AVAILABLE  
FOR THIS RECORD. ALL CITATIONS AVAILABLE  
IN THE RE FORMAT

L54 ANSWER 41 OF 51 HCAPLUS COPYRIGHT 2006 ACS on STN  
ACCESSION NUMBER: 2000:655691 HCAPLUS  
DOCUMENT NUMBER: 133:335470  
TITLE: Novel chiral conjugated macromolecules for

potential electrical and optical applications  
 AUTHOR(S): Pu, Lin  
 CORPORATE SOURCE: Department of Chemistry, University of  
 Virginia, Charlottesville, VA, 22901, USA  
 SOURCE: Macromolecular Rapid Communications (2000),  
 21(12), 795-809  
 CODEN: MRCOE3; ISSN: 1022-1336  
 PUBLISHER: Wiley-VCH Verlag GmbH  
 DOCUMENT TYPE: Journal; General Review  
 LANGUAGE: English

X already  
 hydruay  
 sps.

AB A review, with 75 refs., on optically active 1,1'-binaphthyl mols. as the basis of chiral dendrimers and linear polymers, e.g., polyacetylenes, poly(arylene ethynylene)s, binaphthyl conjugated polymers with crown ether receptors, binaphthyl-polythiophenes, propeller-like binaphthyl polymers with alkylamino donors, etc. The dendrimers show efficient light harvesting effects and enantioselective fluorescence response in the presence of chiral amino alc. quenchers. The dendrimers are potentially useful as fluorescent sensors for recognition of chiral organic compds. Linear binaphthyl polymers show strong **light emitting** properties and colors of emission can be systematically tuned by incorporating linkers of various conjugation length. Efficient **light emitting** diodes can be fabricated using binaphthyl-based conjugated polymers. Nonlinear optical chromophores organize in the chiral binaphthyl polymer chains to construct noncentrosym. and multipolar materials. These novel propeller-like polymers have shown significant second-order nonlinear optical effects.

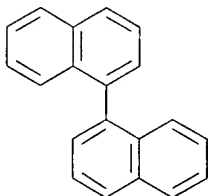
IT 604-53-5D, 1,1'-Binaphthyl, polymers

RL: PRP (Properties)

(chiral conjugated dendrimers and polymers based on binaphthyl derivs. for fluorescent sensors for chiral recognition and for **LEDs**)

RN 604-53-5 HCAPLUS

CN 1,1'-Binaphthalene (9CI) (CA INDEX NAME)



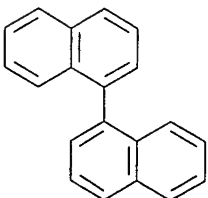
IT 604-53-5, 1,1'-Binaphthyl

RL: PRP (Properties)

(core; chiral conjugated dendrimers and polymers based on binaphthyl derivs. for fluorescent sensors for chiral recognition and for **LEDs**)

RN 604-53-5 HCAPLUS

CN 1,1'-Binaphthalene (9CI) (CA INDEX NAME)



CC 35-0 (Chemistry of Synthetic High Polymers)  
Section cross-reference(s): 36, 73

IT Dendritic polymers  
RL: PRP (Properties)  
(binaphthyl-based; chiral conjugated dendrimers and polymers based on binaphthyl derivs. for fluorescent sensors for chiral recognition and for LEDs)

IT Chiral recognition  
Fluorescence  
Nonlinear optical materials  
Polymer chains  
(chiral conjugated dendrimers and polymers based on binaphthyl derivs. for fluorescent sensors for chiral recognition and for LEDs)

IT Polymers, properties  
RL: PRP (Properties)  
(conjugated, binaphthyl-containing; chiral conjugated dendrimers and polymers based on binaphthyl derivs. for fluorescent sensors for chiral recognition and for LEDs)

IT Polyacetylenes, properties  
RL: PRP (Properties)  
(polyarylene-, binaphthyl-containing; chiral conjugated dendrimers and polymers based on binaphthyl derivs. for fluorescent sensors for chiral recognition and for LEDs)

IT Polymers, properties  
RL: PRP (Properties)  
(polythiophenes, binaphthyl-containing; chiral conjugated dendrimers and polymers based on binaphthyl derivs. for fluorescent sensors for chiral recognition and for LEDs)

IT 604-53-5D, 1,1'-Binaphthyl, polymers  
RL: PRP (Properties)  
(chiral conjugated dendrimers and polymers based on binaphthyl derivs. for fluorescent sensors for chiral recognition and for LEDs)

IT 604-53-5, 1,1'-Binaphthyl  
RL: PRP (Properties)  
(core; chiral conjugated dendrimers and polymers based on binaphthyl derivs. for fluorescent sensors for chiral recognition and for LEDs)

REFERENCE COUNT: 75 THERE ARE 75 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L54 ANSWER 42 OF 51 HCAPLUS COPYRIGHT 2006 ACS on STN  
ACCESSION NUMBER: 2000:511898 HCAPLUS  
DOCUMENT NUMBER: 133:142424  
TITLE: Organic electroluminescence devices and manufacture  
INVENTOR(S): Azuma, Hisahiro; Sakai, Toshio; Fukuoka, Kenichi; Hosokawa, Chishio  
PATENT ASSIGNEE(S): Idemitsu Kosan Co., Ltd., Japan  
SOURCE: Jpn. Kokai Tokkyo Koho, 43 pp.  
CODEN: JKXXAF  
DOCUMENT TYPE: Patent  
LANGUAGE: Japanese  
FAMILY ACC. NUM. COUNT: 1  
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2000208264	A2	20000728	JP 1999-10659	1999 0119

PRIORITY APPLN. INFO.: JP 1999-10659

1999  
0119

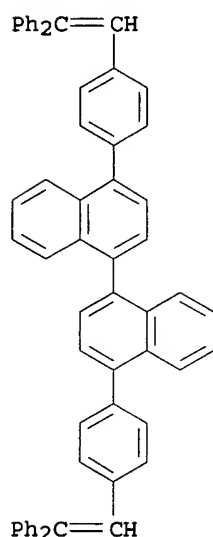
OTHER SOURCE(S): MARPAT 133:142424

AB The devices comprise a phosphor and/or a crystallization inhibitor (energy gaps  $E_{g1}$  and  $E_{g2}$ , resp.) containing  $XYC:HCArCH:CXY$  ( $X, Y = C6-50$  aryl;  $C3-50$  monovalent heterocyclic;  $Ar = C6-80$  arylene; divalent triphenylamine;  $C3-80$  divalent heterocyclic), where  $E_{g1} > E_{g2} - 0.1$  eV.

IT **186412-20-4**  
RL: DEV (Device component use); USES (Uses)  
(organic **electroluminescence** devices and manufacture)

RN 186412-20-4 HCAPLUS

CN 1,1'-Binaphthalene, 4,4'-bis[4-(2,2-diphenylethenyl)phenyl]- (9CI)  
(CA INDEX NAME)



IC ICM H05B033-14  
ICS C09K011-06; H05B033-10

CC 73-5 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)

ST org **electroluminescence** device phosphor crystn inhibitor

IT Band gap  
Crystallization  
**Electroluminescent** devices  
**Luminescent** substances  
(organic **electroluminescence** devices and manufacture)

IT 2085-33-8, Tris(8-quinolinolato)aluminum 123847-85-8  
124729-98-2 125643-81-4 142289-08-5 144810-08-2  
186259-51-8 186412-15-7 186412-19-1 **186412-20-4**  
213527-39-0 286369-15-1 286369-16-2 286369-17-3  
286369-18-4 286369-19-5

RL: DEV (Device component use); USES (Uses)  
(organic **electroluminescence** devices and manufacture)

L54 ANSWER 43 OF 51 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2000:457176 HCAPLUS

DOCUMENT NUMBER: 133:81385

TITLE: Organic **electroluminescent** devices

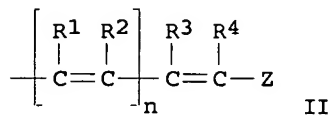
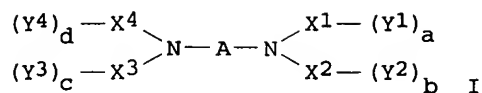
INVENTOR(S): Hosokawa, Chishio; Funehashi, Masakazu;  
Kawamura, Hisayuki; Arai, Hiromasa; Koga,  
Hidetoshi; Ikeda, Hidetsugu



PATENT ASSIGNEE(S): Idemitsu Kosan Co., Ltd., Japan  
 SOURCE: PCT Int. Appl., 167 pp.  
 CODEN: PIXXD2  
 DOCUMENT TYPE: Patent  
 LANGUAGE: Japanese  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2000039247	A1	20000706	WO 1999-JP7390	1999 1228
W: CN, KR, US RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
JP 2001052868	A2	20010223	JP 1999-223056	1999 0805
JP 2001131541	A2	20010515	JP 1999-347848	1999 1207
EP 1061112	A1	20001220	EP 1999-961465	1999 1228
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI				
US 6743948	B1	20040601	US 2000-623057	2000 0825
US 2003072966	A1	20030417	US 2002-179179	2002 0626
US 6951693	B2	20051004		2004 0401
US 2005038296	A1	20050217	US 2004-814121	
PRIORITY APPLN. INFO.:				
			JP 1998-373921	A 1998 1228
			JP 1999-140103	A 1999 0520
			JP 1999-223056	A 1999 0805
			JP 1999-234652	A 1999 0820
			JP 1999-347848	A 1999 1207
			WO 1999-JP7390	W 1999 1228
			US 2000-623057	A3 2000 0825

OTHER SOURCE(S): MARPAT 133:81385  
GI



AB The devices having a high luminescent efficiency, a long life and a high heat resistance comprise I (A = (substituted) C22-60 arylene; X1-4 = (substituted) C6-30 arylene; Y1-4 = II; a-d = 0-2; R1-4 = H, (substituted) alkyl, (substituted) aryl, cyano; R3 may be bonded to R4 to form a triple bond; Z = (substituted) aryl; n = 0, 1).

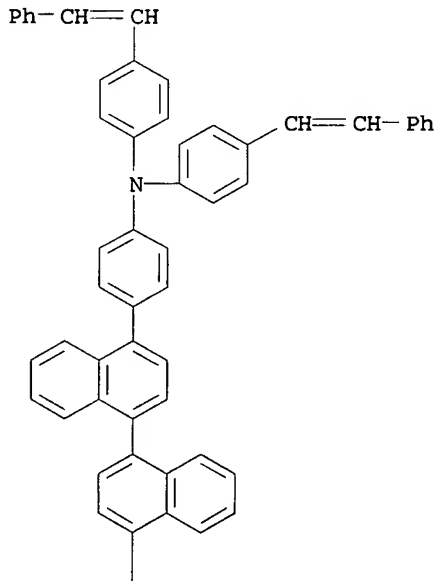
IT 279671-56-6

RL: DEV (Device component use); USES (Uses)  
(organic electroluminescent devices)

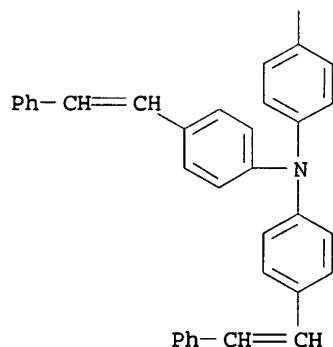
RN 279671-56-6 HCAPLUS

CN Benzenamine, 4,4'-[1,1'-binaphthalene]-4,4'-diylbis[N,N-bis[4-(2-phenylethenyl)phenyl]- (9CI) (CA INDEX NAME)

PAGE 1-A



PAGE 2-A



IC ICM C09K011-06  
ICS C07C211-54; C07C211-58; C07C209-10; B01J031-24; H05B033-14  
CC 73-5 (Optical, Electron, and Mass Spectroscopy and Other  
Related Properties)  
ST **org** **luminous** long life  
**electroluminescent** device  
IT Thermal resistance  
(organic **electroluminescent** devices)  
IT Polycarbonates, uses  
RL: DEV (Device component use); USES (Uses)  
(organic **electroluminescent** devices)  
IT **Electroluminescent** devices  
(zg43org. **electroluminescent** devices)  
IT 2085-33-8, Tris(8-quinolinolato)aluminum 12789-79-6  
50926-11-9, ITO 65181-78-4, TPD 142289-08-5,  
4,4'-Bis(2,2-diphenylvinyl)biphenyl 177799-11-0 181367-28-2  
186412-15-7 205930-46-7 221453-38-9 226086-76-6  
239475-90-2 279671-24-8 279671-53-3 279671-54-4  
**279671-56-6** 279671-57-7 279672-13-8 279672-14-9  
279672-15-0 279672-16-1 279672-17-2 279672-18-3  
279672-19-4 279672-20-7 279672-21-8 279672-22-9  
279672-23-0 279672-24-1 279672-25-2 279672-27-4  
279672-30-9 279672-32-1 279672-34-3 279672-35-4  
279672-37-6 279672-39-8 279672-41-2 279672-42-3  
279672-43-4 279672-44-5 279672-45-6 279672-46-7  
279672-47-8 279672-48-9 279672-49-0 279672-50-3  
279672-51-4 279672-52-5 279672-53-6 279672-54-7  
279672-55-8 279672-56-9 279672-57-0 279672-58-1  
RL: DEV (Device component use); USES (Uses)  
(organic **electroluminescent** devices)  
REFERENCE COUNT: 16 THERE ARE 16 CITED REFERENCES AVAILABLE  
FOR THIS RECORD. ALL CITATIONS AVAILABLE  
IN THE RE FORMAT

L54 ANSWER 44 OF 51 HCAPLUS COPYRIGHT 2006 ACS on STN  
ACCESSION NUMBER: 2000:120871 HCAPLUS  
DOCUMENT NUMBER: 132:173451  
TITLE: Aromatic hydrocarbon compound for organic  
**electroluminescent** device  
INVENTOR(S): Azuma, Hisahiro; Hosokawa, Chishio; Kusumoto,  
Tadashi  
PATENT ASSIGNEE(S): Idemitsu Kosan Co., Ltd., Japan  
SOURCE: Jpn. Kokai Tokkyo Koho, 15 pp.  
CODEN: JKXXAF  
DOCUMENT TYPE: Patent  
LANGUAGE: Japanese  
FAMILY ACC. NUM. COUNT: 1  
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2000053677	A2	20000222	JP 1998-225680	1998 0810
PRIORITY APPLN. INFO.:			JP 1998-225680	1998 0810

OTHER SOURCE(S): MARPAT 132:173451

AB The aromatic hydrocarbon compound for organic **electroluminescent** device has structure (R1)(Y1)C=CH-X-CH=C(R2)(Y2) (X = C1-30 alkyl, alkoxy, C6-20 aryl, C6-18 aryl oxy, etc.; Y1-2 = C4-30 heterocyclic rings containing S, polyarylene; R1-2 = H, C1-30 alkyl, alkoxy, C6-20 aryl, C6-18 aryl oxy, amino, etc.). The aromatic hydrocarbon compound provides an organic **electroluminescent** device of the high **electroluminescent** efficiency, the decreased driving voltage, and the excellent heat-resistance.

IT 258833-14-6P

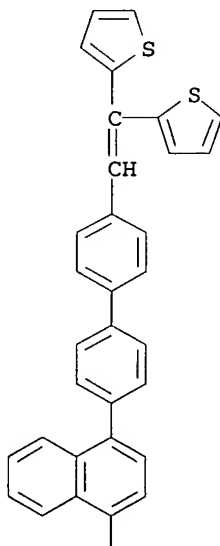
RL: PNU (Preparation, unclassified); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)

(aromatic hydrocarbon compound for organic **electroluminescent** device)

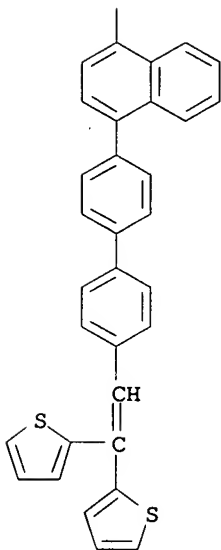
RN 258833-14-6 HCAPLUS

CN Thiophene, 2,2',2'',2'''-[[1,1'-binaphthalene]-4,4'-diylbis([1,1'-biphenyl]-4',4'-diyl-2-ethenyl-1-ylidene)]tetrakis- (9CI) (CA INDEX NAME)

PAGE 1-A



PAGE 2-A

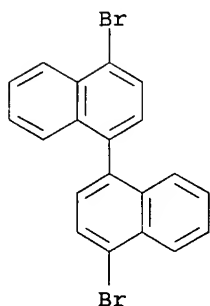


IT 49610-35-7

RL: RCT (Reactant); RACT (Reactant or reagent)  
 (aromatic hydrocarbon compound for organic **electroluminescent** device)

RN 49610-35-7 HCAPLUS

CN 1,1'-Binaphthalene, 4,4'-dibromo- (9CI) (CA INDEX NAME)



IC ICM C07D333-10

ICS C07D275-02; C07D277-22; C07D279-20; C07D333-54; C07D339-08;  
 C07D409-14; C09K011-06; H05B033-14; H05B033-22

CC 74-13 (Radiation Chemistry, Photochemistry, and Photographic and  
 Other Reprographic Processes)  
 Section cross-reference(s): 27, 73

ST arom hydrocarbon org **electroluminescent** deviceIT **Electroluminescent** devices

(aromatic hydrocarbon compound for organic **electroluminescent**  
 device)

IT Aromatic compounds

RL: PNU (Preparation, unclassified); TEM (Technical or engineered  
 material use); PREP (Preparation); USES (Uses)

(aromatic hydrocarbon compound for organic **electroluminescent**  
 device)

IT Phosphors

(**electroluminescent**; aromatic hydrocarbon compound for  
 organic **electroluminescent** device)

IT 258833-08-8P  
RL: PNU (Preparation, unclassified); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)  
(aromatic hydrocarbon compound for organic electroluminescent device)

IT 258833-09-9P 258833-10-2P 258833-12-4P 258833-14-6P  
258833-16-8P 258833-18-0P 258833-21-5P  
RL: PNU (Preparation, unclassified); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
(aromatic hydrocarbon compound for organic electroluminescent device)

IT 135-00-2, 2-Benzoylthiophene 523-27-3 38186-51-5  
49610-35-7 121848-75-7 258833-11-3 258833-13-5  
258833-15-7 258833-17-9 258833-19-1 258833-20-4  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(aromatic hydrocarbon compound for organic electroluminescent device)

L54 ANSWER 45 OF 51 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 1998:466566 HCAPLUS

DOCUMENT NUMBER: 129:115438

TITLE: Organic electroluminescent devices  
and luminescent display employing such organic electroluminescent devices

INVENTOR(S): Tamura, Shin-ichiro; Ishibashi, Tadashi

PATENT ASSIGNEE(S): Sony Corp., Japan

SOURCE: Eur. Pat. Appl., 22 pp.

CODEN: EPXXDW

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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EP 851715	A1	19980701	EP 1997-122303	1997 1217
EP 851715	B1	20020313		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
JP 10183112	A2	19980714	JP 1996-350713	1996 1227
US 5858564	A	19990112	US 1997-993863	1997 1218
PRIORITY APPLN. INFO.:			JP 1996-350713	A 1996 1227

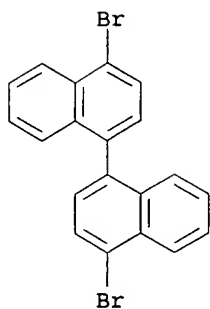
OTHER SOURCE(S): MARPAT 129:115438

AB Electroluminescent devices are described in which the luminescent zone contains quaterterrylene or a derivative thereof as the luminescent material. Displays including the devices are also described.

IT 49610-35-7, 4,4'-Dibromo-1,1'-binaphthyl  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(organic electroluminescent devices and displays employing quaterterrylene derivs.)

RN 49610-35-7 HCAPLUS

CN 1,1'-Binaphthalene, 4,4'-dibromo- (9CI) (CA INDEX NAME)

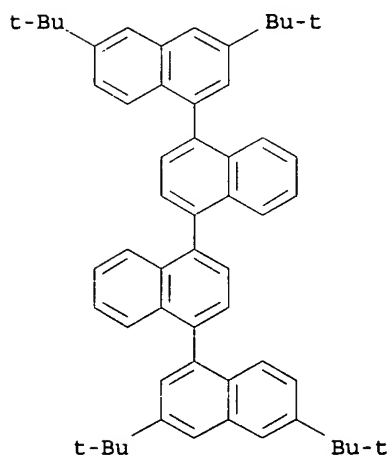


IT 126847-92-5P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP  
(Preparation); RACT (Reactant or reagent)  
(organic electroluminescent devices and displays  
employing quaterterrylene derivs.)

RN 126847-92-5 HCAPLUS

CN 1,1':4',1'':4'',1''':4'''-Quaternaphthalene, 3,3''',6,6'''-tetrakis(1,1-dimethylethyl)- (9CI) (CA INDEX NAME)



IC ICM H05B033-14

ICS H05B033-26

CC 73-11 (Optical, Electron, and Mass Spectroscopy and  
Other Related Properties)  
Section cross-reference(s): 74, 76

ST quaterterrylene deriv electroluminescent device; display  
electroluminescent quaterterrylene deriv

IT Electroluminescent devices

(organic electroluminescent devices and displays  
employing quaterterrylene derivs.)

IT 1314-13-2, Zinc oxide, uses

RL: DEV (Device component use); USES (Uses)  
(electrodes containing aluminum mixed with; organic  
electroluminescent devices and displays employing  
quaterterrylene derivs.)

IT 18282-10-5, Tin dioxide

RL: DEV (Device component use); USES (Uses)  
(electrodes containing antimony mixed with; organic  
electroluminescent devices and displays employing  
quaterterrylene derivs.)

IT 7440-36-0, Antimony, uses

RL: DEV (Device component use); USES (Uses)  
(electrodes containing tin dioxide mixed with; organic electroluminescent devices and displays employing quaterterrylene derivs.)

IT 7429-90-5, Aluminum, uses 7439-93-2, Lithium, uses 7439-95-4, Magnesium, uses 7440-39-3, Barium, uses 7440-57-5, Gold, uses 7440-70-2, Calcium, uses 7440-74-6, Indium, uses 12798-95-7 50926-11-9, Indium tin oxide

RL: DEV (Device component use); USES (Uses)  
(electrodes containing; organic electroluminescent devices and displays employing quaterterrylene derivs.)

IT 188-73-8, Benzo[1,2,3-cd:4,5,6-c'd']diperylene 2085-33-8, Tris(8-hydroxyquinolinato)aluminum 4733-39-5, 2,9-Dimethyl-4,7-diphenyl-1,10-phenanthroline 65181-78-4, N,N'-Diphenyl-N,N'-bis(3-methylphenyl)-1,1'-biphenyl-4,4'-diamine

RL: DEV (Device component use); USES (Uses)  
(organic electroluminescent devices and displays employing quaterterrylene derivs.)

IT 126822-84-2P

RL: DEV (Device component use); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)  
(organic electroluminescent devices and displays employing quaterterrylene derivs.)

IT 91-20-3, Naphthalene, reactions 507-20-0, tert-Butyl chloride 49610-35-7, 4,4'-Dibromo-1,1'-binaphthyl

RL: RCT (Reactant); RACT (Reactant or reagent)  
(organic electroluminescent devices and displays employing quaterterrylene derivs.)

IT 10239-76-6P 10275-58-8P, 2,7-Di(tert-butyl)naphthalene 126822-80-8P 126822-86-4P 126847-92-5P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)  
(organic electroluminescent devices and displays employing quaterterrylene derivs.)

REFERENCE COUNT: 3 THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L54 ANSWER 46 OF 51 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 1997:134690 HCAPLUS

DOCUMENT NUMBER: 126:164087

TITLE: Organic electroluminescent elements

INVENTOR(S): Azuma, Hisahiro; Matsura, Masahide; Sakai, Toshio

PATENT ASSIGNEE(S): Idemitsu Kosan Co, Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 37 pp.  
CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 2

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 08333569	A2	19961217	JP 1996-82922	1996 0404
JP 3175816	B2	20010611		
PRIORITY APPLN. INFO.:			JP 1995-78744	A 1995 0404

AB A long-life electroluminescent phosphor consists of distylyl arylene derivs., where the claims include the Markush formulas and the manufacturing process of representative phosphors.

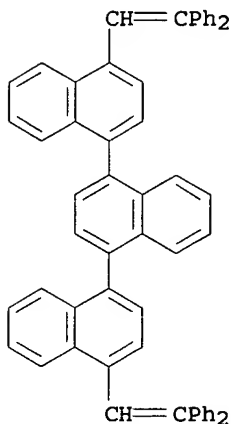


IT 186412-14-6 186412-20-4

RL: TEM (Technical or engineered material use); USES (Uses)  
(preparation and use of distylyl arylene derivative  
electroluminescent phosphors)

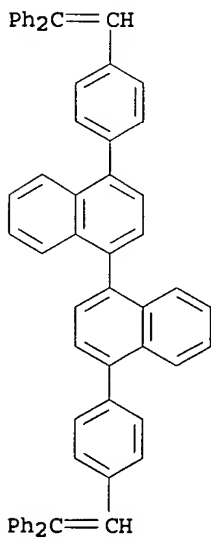
RN 186412-14-6 HCAPLUS

CN 1,1':4',1''-Ternaphthalene, 4,4''-bis(2,2-diphenylethenyl)- (9CI)  
(CA INDEX NAME)



RN 186412-20-4 HCAPLUS

CN 1,1'-Binaphthalene, 4,4'-bis[4-(2,2-diphenylethenyl)phenyl]- (9CI)  
(CA INDEX NAME)



IC ICM C09K011-06

ICS H05B033-14

CC 73-11 (Optical, Electron, and Mass Spectroscopy and  
Other Related Properties)

ST distylyl arylene electroluminescent phosphor manuf

IT Phosphors

(preparation and use of distylyl arylene derivative  
electroluminescent phosphors)

IT 186259-43-8 186259-44-9 186259-51-8 186412-13-5

186412-14-6 186412-15-7 186412-16-8 186412-17-9

186412-18-0 186412-19-1 186412-20-4 186412-21-5  
 186412-22-6 186556-98-9  
 RL: TEM (Technical or engineered material use); USES (Uses)  
 (preparation and use of distyryl arylene derivative  
 electroluminescent phosphors)

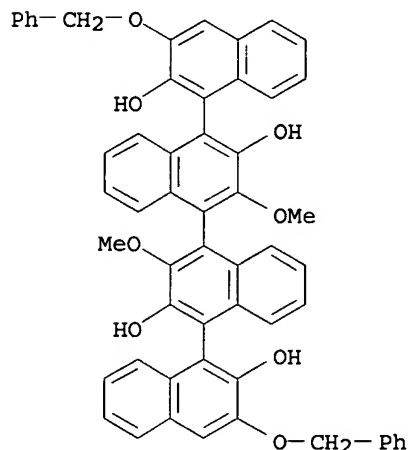
L54 ANSWER 47 OF 51 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 1996:569042 HCAPLUS  
 DOCUMENT NUMBER: 125:328245  
 TITLE: Preparation of absolute configuration of  
 hexahydroxyternaphthalene and  
 octahydroxyquaternaphthalene derivatives  
 AUTHOR(S): Tanaka, Kiyoshi; Furuta, Takumi; Fuji, Kaoru;  
 Miwa, Yoshihisa; Taga, Tooru  
 CORPORATE SOURCE: Inst. Chemical Research, Kyoto Univ., Sakyo,  
 606, Japan  
 SOURCE: Tetrahedron: Asymmetry (1996), 7(8), 2199-2202  
 CODEN: TASYE3; ISSN: 0957-4166  
 PUBLISHER: Elsevier  
 DOCUMENT TYPE: Journal  
 LANGUAGE: English

AB Oxidative coupling reactions of the stereochem. defined  
 tetrahydroxybinaphthalene derivs. gave a separable mixture of two  
 diastereomers of (S,S,S)-quaternaphthalenes and  
 (S,R,S)-quaternaphthalenes, whose structures were confirmed by an  
 alternative chemical transformation through the ternaphthalenes as  
 well as the X-ray structure anal. The CD spectra of the  
 corresponding diastereomers were indicative of the stereochem.  
 across the axis.

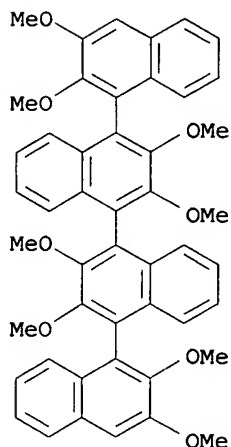
IT 183015-43-2P  
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP  
 (Preparation); RACT (Reactant or reagent)  
 (preparation and configuration of ternaphthalenols and  
 quaternaphthalenols)

RN 183015-43-2 HCAPLUS  
 CN [1,1':4',1'':4'',1'''-Quaternaphthalene]-2,2',2'',3'''-tetrol,  
 2'',3'-dimethoxy-3,3'''-bis(phenylmethoxy)-, stereoisomer (9CI)  
 (CA INDEX NAME)

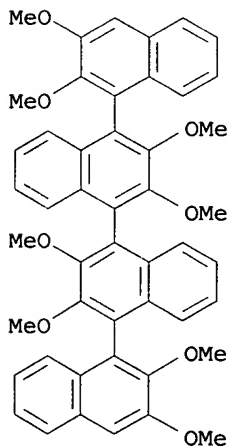


IT 183015-40-9P 183182-75-4P  
 RL: SPN (Synthetic preparation); PREP (Preparation)  
 (preparation and configuration of ternaphthalenols and  
 quaternaphthalenols)  
 RN 183015-40-9 HCAPLUS  
 CN 1,1':4',1'':4'',1'''-Quaternaphthalene,

2,2',2'',2''',3,3',3'',3'''-octamethoxy-, stereoisomer (9CI) (CA  
INDEX NAME)

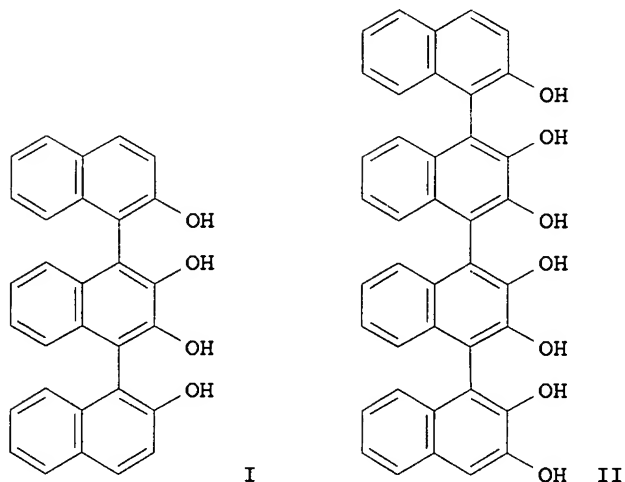


RN 183182-75-4 HCAPLUS  
CN 1,1':4',1'':4'',1''':4''',1''''-Quaternaphthalene,  
2,2',2'',2''',3,3',3'',3'''-octamethoxy-, stereoisomer (9CI) (CA  
INDEX NAME)



CC 25-24 (Benzene, Its Derivatives, and Condensed Benzenoid  
Compounds)  
Section cross-reference(s): 75  
IT 183015-33-0P 183015-34-1P 183015-35-2P 183015-38-5P  
183015-39-6P 183015-41-0P **183015-43-2P** 183015-44-3P  
183182-73-2P 183182-74-3P 183182-76-5P  
RL: RCT (Reactant); SPN (Synthetic preparation); PREP  
(Preparation); RACT (Reactant or reagent)  
(preparation and configuration of ternaphthalenols and  
quaternaphthalenols)  
IT 183015-36-3P 183015-37-4P **183015-40-9P** 183015-42-1P  
**183182-75-4P** 183182-77-6P  
RL: SPN (Synthetic preparation); PREP (Preparation)  
(preparation and configuration of ternaphthalenols and  
quaternaphthalenols)

L54 ANSWER 48 OF 51 HCAPLUS COPYRIGHT 2006 ACS on STN  
 -- ACCESSION NUMBER: 1996:84633 HCAPLUS  
 DOCUMENT NUMBER: 124:231559  
 TITLE: Reaction of 1,4-Dibromo-2,3-dihydroxynaphthalene with 2-Naphthoxide Ion. Solvent and Cation Control in the Formation of the Conformationally Locked Stereoisomers of 2,2',3',2''-Tetrahydroxy-1,1':4',1''-ternaphthyl and 2,2',3',2'',3'',2'''-Hexahydroxy-1,1':4',1'':4'',1'''-quaternaphthyl  
 AUTHOR(S): Belohradsky, Martin; Budesinsky, Milos; Gunterova, Jana; Hodacova, Jana; Holy, Petr; Zavada, Jiri; Cisarova, Ivana; Podlaha, Jaroslav  
 CORPORATE SOURCE: Institute of Organic Chemistry and Biochemistry, Academy of Sciences, Prague, 166 10, Czech Rep.  
 SOURCE: Journal of Organic Chemistry (1996), 61(4), 1205-10  
 CODEN: JOCEAH; ISSN: 0022-3263  
 PUBLISHER: American Chemical Society  
 DOCUMENT TYPE: Journal  
 LANGUAGE: English  
 GI



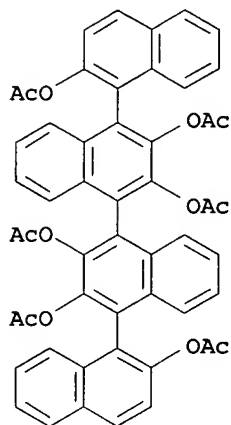
AB The reaction of the title dibromide with the 2-naphthoxide ion proceeds under remarkably mild conditions (25-50°), yielding all possible stereoisomers of ternaphthol I and quaternaphthol II. An unambiguous structure assignment has been made for the individual stereoisomers, and conditions for their thermal interconversion have been established. In contrast to a nonselective distribution of stereoisomers found in the thermodyn. equilibrium mixture, a high stereoselectivity can be induced in the coupling reaction under kinetic control. The coordinating ability of the alkali metal counterion (M<sup>+</sup>) of the participating 2-naphthoxide ion has been found to play a key role in the stereocontrol, supporting strongly the formation of the cis stereoisomers of I and II. When the coordinating ability of M<sup>+</sup> is suppressed by an efficient solvation and/or by complexation with 18-crown-6, formation of the trans stereoisomers prevails in the reaction.

IT 174741-66-3P 174848-27-2P 174848-28-3P

RL: SPN (Synthetic preparation); PREP (Preparation)  
(preparation of)

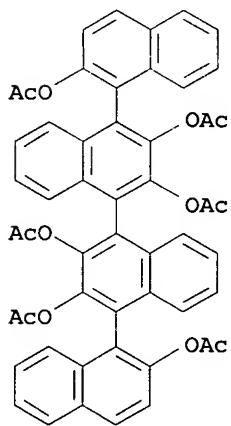
RN 174741-66-3 HCAPLUS

CN [1,1':4',1'':4'',1'''-Quaternaphthalene]-2,2',2'',2''',3',3'''-  
hexol, hexaacetate, stereoisomer (9CI) (CA INDEX NAME)



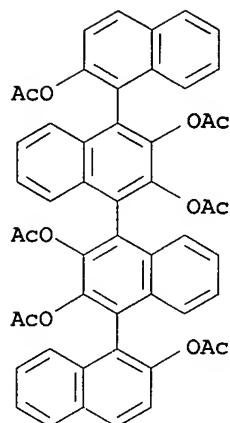
RN 174848-27-2 HCAPLUS

CN [1,1':4',1'':4'',1'''-Quaternaphthalene]-2,2',2'',2''',3',3'''-  
hexol, hexaacetate, stereoisomer (9CI) (CA INDEX NAME)



RN 174848-28-3 HCAPLUS

CN [1,1':4',1'':4'',1'''-Quaternaphthalene]-2,2',2'',2''',3',3'''-  
hexol, hexaacetate, stereoisomer (9CI) (CA INDEX NAME)



CC 22-3 (Physical Organic Chemistry)  
 IT 174741-65-2P **174741-66-3P** 174741-67-4P 174741-69-6P  
 174848-26-1P **174848-27-2P 174848-28-3P**  
 RL: SPN (Synthetic preparation); PREP (Preparation)  
 (preparation of)

L54 ANSWER 49 OF 51 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 1994:55181 HCAPLUS

DOCUMENT NUMBER: 120:55181

TITLE: Synthesis of a chiral nonracemic segmented screwlike oligomer. An unusual form of molecular chirality

AUTHOR(S): Bedworth, Peter V.; Tour, James M.  
 CORPORATE SOURCE: Dep. Chem. Biochem., Univ. South Carolina, Columbia, SC, 29208, USA

SOURCE: Macromolecules (1994), 27(2), 622-4  
 CODEN: MAMOBX; ISSN: 0024-9297

DOCUMENT TYPE: Journal

LANGUAGE: English

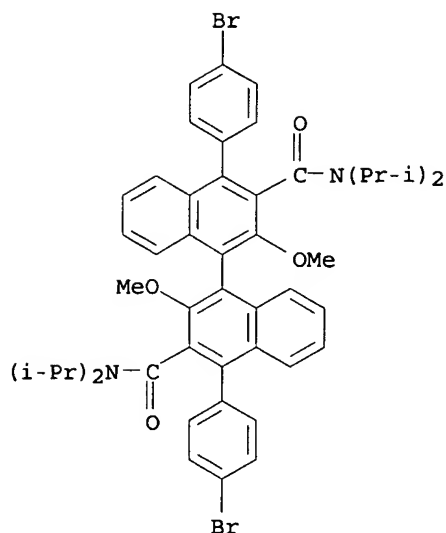
AB The preparation of a chiral nonracemic conjugated organic oligomer that possesses a linear backbone with segmented helical functional groups emanating from the backbone is described. The monomer is a chiral nonracemic 4,4'-bis(p-bromophenyl)-1,1'-binaphthalene derivative. Oligomerization is accomplished by Ni(0)-promoted coupling of the bromophenyl groups. The new oligomeric framework demonstrates that even highly aligned chiral groups along a common axis are insufficient for large optical rotational enhancements.

IT **151986-90-2P**

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)  
 (preparation and polymerization of)

RN 151986-90-2 HCAPLUS

CN [1,1'-Binaphthalene]-3,3'-dicarboxamide, 4,4'-bis(4-bromophenyl)-2,2'-dimethoxy-N,N,N',N'-tetrakis(1-methylethyl)-, (S)- (9CI) (CA INDEX NAME)

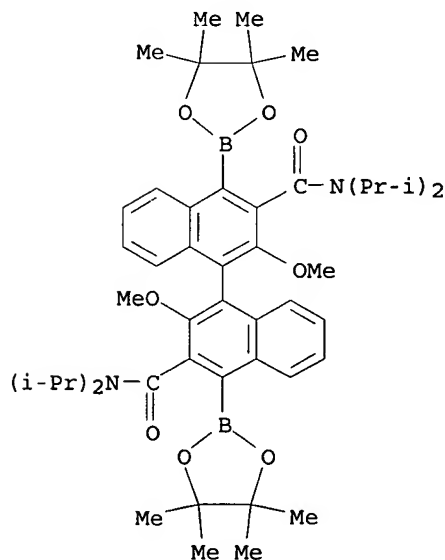


IT 151986-89-9P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)  
(preparation and reaction of, with dibromobenzene)

RN 151986-89-9 HCAPLUS

CN [1,1'-Binaphthalene]-3,3'-dicarboxamide, 2,2'-dimethoxy-N,N,N',N'-tetrakis(1-methylethyl)-4,4'-bis(4,4,5,5-tetramethyl-1,3,2-dioxaborolan-2-yl)-, (S)- (9CI) (CA INDEX NAME)



CC 35-5 (Chemistry of Synthetic High Polymers)

IT 151986-90-2P

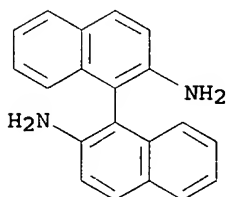
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)  
(preparation and polymerization of)

IT 151986-89-9P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)

(preparation and reaction of, with dibromobenzene)

L54 ANSWER 50 OF 51 HCAPLUS COPYRIGHT 2006 ACS on STN  
 ACCESSION NUMBER: 1974:114479 HCAPLUS  
 DOCUMENT NUMBER: 80:114479  
 TITLE: Frequency-brightness characteristics of the  
 electroluminescence of organic  
 substances  
 AUTHOR(S): Steblina, E. V.; Steblin, V. I.  
 CORPORATE SOURCE: USSR  
 SOURCE: Zhurnal Prikladnoi Spektroskopii (1974),  
 20(2), 304-5  
 CODEN: ZPSBAX; ISSN: 0514-7506  
 DOCUMENT TYPE: Journal  
 LANGUAGE: Russian  
 AB The frequencies of the elec. excitation at which the intensity of  
 the electroluminescence is maximum (vmax) were determined for  
 40 various organic compds. in DMF with addition of Et4NBr as  
 electrolyte. The luminescence was excited with 0.01-20000 Hz.  
 Planary Pt electrodes were used. The compds. yielded  
 mostly a single maximum Only dimethylnaphthalene gave 4 maximum at  
 0.02, 0.1, 7, and 20 Hz. A correlation between the structure of  
 the organic compds. and ymax was observed  
 IT 4488-22-6  
 RL: PRP (Properties)  
 (electroluminescence of, frequency-brightness  
 characteristics of)  
 RN 4488-22-6 HCAPLUS  
 CN [1,1'-Binaphthalene]-2,2'-diamine (8CI, 9CI) (CA INDEX NAME)



CC 73-3 (Spectra by Absorption, Emission, Reflection, or Magnetic  
 Resonance, and Other Optical Properties)  
 Section cross-reference(s): 22  
 ST electroluminescence org compd structure  
 IT Luminescence  
 (electro-, of organic compds.,  
 frequency-brightness characteristics of)  
 IT Molecular structure-property relationship  
 (electroluminescence, of organic compds.)  
 IT 82-05-3 83-32-9 85-01-8, properties 86-73-7 90-44-8  
 103-30-0 120-12-7, properties 129-00-0, properties 192-97-2  
 275-51-4 501-65-5 519-73-3 612-79-3 632-52-0 795-95-9  
 886-66-8 1450-63-1 1483-68-7 1499-10-1 1836-87-9  
 1895-98-3 2871-26-3 2871-87-6 3029-40-1 3029-42-3  
 3586-66-1 4488-22-6 11068-27-2 25229-66-7  
 25737-30-8 28515-57-3 35237-17-3 51590-14-8 51746-06-6  
 51850-43-2 51850-44-3 51850-45-4 51899-90-2  
 RL: PRP (Properties)  
 (electroluminescence of, frequency-brightness  
 characteristics of)

L54 ANSWER 51 OF 51 HCAPLUS COPYRIGHT 2006 ACS on STN  
 ACCESSION NUMBER: 1957:51777 HCAPLUS  
 DOCUMENT NUMBER: 51:51777  
 ORIGINAL REFERENCE NO.: 51:9551a-i,9552a-i,9553a-i,9554a-b



TITLE: Organic catalysts. XLI. Catalytic action of o-quinones. 4  
AUTHOR(S): Pracejus, Horst  
CORPORATE SOURCE: Martin-Luther-Univ., Halle, Germany  
SOURCE: Ann. (1956), 601, 61-81  
DOCUMENT TYPE: Journal  
LANGUAGE: Unavailable

AB cf. C.A. 49, 12408e; 51,8066f. The optically active forms of 2 o-quinonecarboxylic acids in the  $\alpha,\alpha'$ -binaphthyl series were synthesized and their dehydrase activities tested towards DL- and optically active amino acids. Only 1 of these showed unequivocal figurational specificity towards phenylalanine, arginine, and valine. However the addition of hemin gave rise to an unspecific partial catalytic action in either of the model compds. The m.ps. of the various hydroquinones were taken in evacuated capillaries and were uncor. Other m.ps. were usually taken by the Kofler method and were corrected. Ordinarily compds. (unless otherwise stated) were dried over P2O5 at 65°/2 mm. Me 3-hydroxy-2-naphthoate (1 mole) in 1 l. warm glacial AcOH was cooled rapidly to 15° and with stirring, treated dropwise with 76 cc. ice-cold HNO3 (d. 1.38) in 80 cc. AcOH. After 0.5 hr. at 0 to 10°, the product, washed with AcOH and Et2O, was treated at 0° with 2.5 l. 0.5M CH2N2 in Et2O, filtered, and the filtrate evaporated, giving 100-112 g. Me 4-nitro-3-methoxy-2-naphthoate (I), pale yellow, m. 73.5-4.5° (from MeOH); this hydrogenated in MeOH with Raney Ni gave 87% of the 4-NH2 analog (II) of I, m. 68-9°. In some of the preps. of II, the mother liquors from the main portion of II gave an HCl salt, m. 195-207° (decomposition) (its free base, b. 117-20°/0.0001 mm., m. 47-9°, apparently an unstable modification of II); the 4-Ac derivative of II, m. 184.5-5.5° (from C6H6-petr. ether); 4-phthaloyl derivative of II, m. 200-1.5° (from C6H6). II (1 mole) in 500 cc. warm MeOH and 1 mole (AcO)2Hg in 1.2 l. boiling MeOH containing little AcOH were each cooled separately to incipient crystallization, then combined promptly, and kept 24 hrs. at 20°, the mother liquor decanted, and the crystalline sediment triturated with Et2O to remove undesirable microcrystals and to give 370 g. coarser crystalline residue, consisting of the 1-AcOHg derivative (III) of II, m. 133-6°. Powdered III (0.1 mole) was warmed 0.5 hr. with 70 cc. Ac2O, the product pressed out on a kaolin plate, washed with 100 cc. MeOH, warmed 0.5 hr. with 100 cc. MeOH and 50 g. KI in 80 cc. H2O, then stirred 3 hrs. with 24 g. iodine in 125 cc. MeOH, kept 48 hrs., heated to boiling, decanted from undissolved material, and the solution poured into warm H2O, giving 27.5 g. Me 1-iodo-3-methoxy-4-acetamido-2-naphthoate (IV), m. 230-1° (from PhMe). Formed analogously to IV was the 1-Br analog, rectangles, m. 196-7°. III (0.25 mole) with 0.5 mole phthalic anhydride in 300 cc. HCONMe2 was stirred and heated 1 hr. at 110-20°, cooled to about 50°, diluted with 450 cc. H2O, filtered, the precipitate washed with MeOH and suspended in 300 cc. H2O, stirred 0.5 hr. with 0.78 mole KI, heated with 250 cc. MeOH and 0.275 mole iodine, stirred 4 hrs., cooled to -5°, washed with H2O, then a little MeOH, dried, extracted with 1.5 l. C6H6, filtered through active Al2O3, and the filtrate on concentration gave 59-63 g. Me 1-iodo-3-methoxy-4-phthalimido-2-naphthoate (V), m. 215-17° (from PhMe and MeOH). Dried V (40 g.) was intimately mixed with 30 g. Cu powder, heated under N to 220-30°, stirred 0.5 hr., treated with another 20 g. Cu, heated 0.5 hr., cooled, powdered, and extracted with Me2CO, giving 45-50% dl-2,2'-dicarbomethoxy-3,3'-dimethoxy-4,4'-diphthalimido-1,1'-binaphthyl (VI), colorless, m. 274-6° (from PhMe-petr. ether), showing polymorphism, frequently m. 245°, recrystg. at about 250-60°, and rem. 274-6°. VI (1.44 g.) in 20 cc. dioxane, 20 cc. MeOH, and 4.1 cc. N KOH in MeOH was boiled 1 hr., giving, after acidification, 1.4 g. amorphous, somewhat

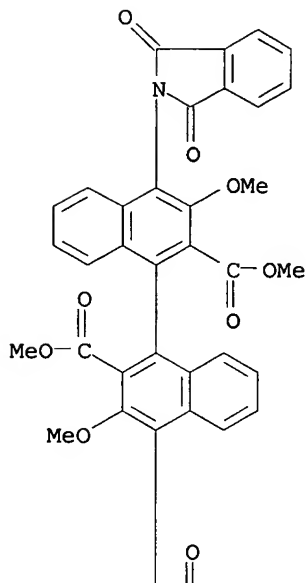
impure dl-2,2'-dicarbomethoxy-3,3'-dimethoxy-4,4'-di(o-carboxybenzamido)-1,1'-binaphthyl, m. 135-7° (from CHCl<sub>3</sub> by precipitation with Et<sub>2</sub>O), which when heated at 150-200°, lost H<sub>2</sub>O and formed VI. VI (1.44 g.) in 5M KOH in MeOH-dioxane, was evaporated to dryness and then boiled with 40 cc. 15% KOH, giving a crystalline K salt, which was acidified, giving impure dl-3,3'-dimethoxy-4,4'-di(o-carboxybenzamido)-2,2'-dicarboxy-1,1'-binaphthyl, m. 230-50° (decomposition). Crude VI (23 g.) was boiled 4 hrs. with 5 g. N<sub>2</sub>H<sub>4</sub>.H<sub>2</sub>O in 650 cc. EtOH, evaporated, extracted twice with 200 cc. each of N HCl, filtered, and the filtrate precipitated with NH<sub>4</sub>OH, giving 8 g. dl-2,2'-dicarbomethoxy-3,3'-dimethoxy-4,4'-diamino-1,1'-binaphthyl (VII) in 2 modifications, m. 208-9° and 215-17.5° (the lower-melting one when heated very slowly passed to the higher-melting form). VII (9.21 g.) and 19.5 g. Pb(OAc)<sub>4</sub> in 125 cc. glacial AcOH was shaken vigorously for 5 min., kept 16 hrs., poured into 1 l. boiling 2N HCl, cooled, and extracted repeatedly with AcOEt, the extract washed with NaHCO<sub>3</sub>, dried, filtered, and concentrated to 25 cc. gave 4.05 g. dl-(2,2'-dicarbomethoxy-1,1'-binaphthyl-3,3',4,4'-diquinone) (VIII), red prisms, m. 257-60° (from PhMe), retaining 1 mole AcOH when crystallized from AcOH. VIII (2.66 g.) in hot Me<sub>2</sub>CO was treated with 1 cc. H<sub>2</sub>SO<sub>3</sub>, and after cessation of a play of colors, with 150 cc. aqueous H<sub>2</sub>SO<sub>3</sub>, and kept 0.5 hr. at 20° and 3 hrs. at -10°, giving 2.43 g. dl-2,2'-dicarbomethoxy-3,3',4,4'-tetrahydroxy-1,1'-binaphthyl (IX), pale yellow leaflets, m. 223-4° (from aqueous MeOH). By mixing equimolar amts. of VIII and IX in dioxane or Me<sub>2</sub>CO, a dark reddish-brown quinhydrone solution was formed. IX (2.43 g.) and 0.5 g. Na<sub>2</sub>SO<sub>3</sub> were heated in a stream of N for 1 hr. with 50 cc. 20% KOH, acidified with H<sub>2</sub>SO<sub>3</sub> and HCl, extracted with Et<sub>2</sub>O, the extract concentrated to 10 cc., and cooled to -10° and finally to -70°, giving 1.69 g. dl-2,2'-dicarboxy-3,3',4,4'-tetrahydroxy-1,1'-binaphthyl (X), m. 340-42° (with some decomposition at about 280°). X (1.23 g.) in 60 cc. absolute EtOH with 0.97 g. quinine in 40 cc. hot EtOH kept 2 hrs. under N at 20°, recrystd. from EtOH, and dried 12 hrs. at 20°/2 mm. over H<sub>2</sub>SO<sub>4</sub>, gave 0.76 g. of the quinine salt, C<sub>42</sub>H<sub>38</sub>O<sub>10</sub>N<sub>2</sub> (XI), [α]<sub>D</sub><sup>20</sup> 15.5° (c 0.4, pyridine), gradually undergoing oxidation with loss in α value. XI shaken with aqueous H<sub>2</sub>SO<sub>4</sub> containing SO<sub>2</sub>, extracted with Et<sub>2</sub>O, and the extract washed and dried gave 0.44 g. d-isomer (Xa) of X, m. 189-92°, [α]<sub>D</sub><sup>21</sup> 131° (c 0.4, absolute EtOH). The 1st mother liquors from XI evaporated to dryness in vacuo, acidified, and extracted with Et<sub>2</sub>O gave the impure l-isomer of X (Xb), [α]<sub>D</sub><sup>21</sup> -84° (c 0.4, in EtOH). X (0.15 g.) in 5 cc. Et<sub>2</sub>O was treated with 0.2 cc. N<sub>2</sub>O<sub>4</sub>, cooled promptly to 0°, and the resulting precipitate washed with Et<sub>2</sub>O and dried, giving 0.13 g. dl-2,2'-dicarboxy-1,1'-binaphthyl-3,3',4,4'-diquinone hemihydrate (XII), orange microcrystals, m. 236-8° (decomposition) [from dioxane (XIII)]. Xa (0.15 g.) in 7.5 cc. CHCl<sub>3</sub> at 0° with N<sub>2</sub>O<sub>4</sub> gave 120 mg. l-isomer of XII (XIIa), m. 228-30° (from CHCl<sub>3</sub>), [α]<sub>D</sub><sup>24</sup> -38 to -40° (c 0.2, dry XIII). Impure Xb was extracted rapidly with Et<sub>2</sub>O to remove the most readily soluble portion, the Et<sub>2</sub>O evaporated, the residue taken up in CHCl<sub>3</sub>, and oxidized with N<sub>2</sub>O<sub>4</sub>, giving the d-isomer (XIIb) of XII, [α]<sub>D</sub><sup>22</sup> 28-36° (c 0.2, dry XIII). VIII (1 g.) was boiled 0.5 hr. with 0.65 g. 1,2-(H<sub>2</sub>N)2C<sub>6</sub>H<sub>4</sub> in 6 cc. AcOH, and diluted with 6 cc. H<sub>2</sub>O giving dl-1,2,1',2'-dibenzo-4,4'-dicarbomethoxybiphenazine (XIV), pale yellow, m. 354-7° (from PhMe, followed by drying 9 hrs. at 140-60°/0.0001 mm.), giving a cerise color with H<sub>2</sub>SO<sub>4</sub>; corresponding free acid (XIVa), m. 315-18° (by saponifying XIV with KOH in BuOH followed by acidification, or better by heating XII with 1,2-(H<sub>2</sub>N)2C<sub>6</sub>H<sub>4</sub> in AcOH), giving a difficultly soluble K salt. Crude XIVa (0.5 g.) refluxed 11 hrs. with 20 cc. quinoline and a trace Cu powdered, steam distilled, the residue treated with dilute HCl, washed with H<sub>2</sub>O, and dried over P<sub>2</sub>O<sub>5</sub> gave a precipitate which in 500 cc. CHCl<sub>3</sub>

was passed through Al<sub>2</sub>O<sub>3</sub>, giving in the eluate 280 mg. 1,2,1',2'-dibenzo-3,3'-biphenazine, felted yellow needles, m. 387.5-9.5° (from CHCl<sub>3</sub> at -6°), identical with the diquinoxalino derivative prepared from 1,1'-binaphthyl-3,3',4,4'-diquinone. 3-Hydroxy-2-naphthoic acid (7.52 g.) and 4 g. NaHCO<sub>3</sub> in 200 cc. H<sub>2</sub>O was treated with 23.8 g. K nitrosodisulfonate and 15 g. AcONa in 1.3 l. H<sub>2</sub>O at 20° and after 4 hrs. acidified, giving dl-1-(2-hydroxy-3-carboxy-1-naphthyl)-2-carboxy-3,4-naphthoquinone hemihydrate (XV), red microcrystals, m. 281-4° (decomposition) (from HCONMe<sub>2</sub>, by addition of hot H<sub>2</sub>O, or 1:4 XIII-H<sub>2</sub>O); obtained solvent-free when a dried solution in Me<sub>2</sub>CO was treated with methylcyclohexane, evaporated in vacuo over H<sub>2</sub>SO<sub>4</sub>, and then heated 13 hrs. at 130°/0.0001 mm. The dl-di-Me ester of XV, orange, needles or leaflets, m. 221-23°, recrystg. and rem. 246-8°. A cooled solution of XV in dilute NaHCO<sub>3</sub> was saturated with SO<sub>2</sub>, kept several hrs., and strongly acidified, giving 60% dl-2',3,4-trihydroxy-2,3'-dicarboxy-1,1'-binaphthyl-H<sub>2</sub>O (XVI), losing H<sub>2</sub>O when dried 12 hrs. at 130°/0.0001 mm. over P<sub>2</sub>O<sub>5</sub>; this (11.7 g.) with quinine in Me<sub>2</sub>CO gave 10 g. quinine salt of the d-isomer of XVI, yellow (purified by solution in HCONMe<sub>2</sub> and precipitation with Et<sub>2</sub>O), [α]<sub>D</sub>23 -24.5° (c 0.5, pyridine); this, by the method given above, gave the free d-acid monohydrate (XVIa), [α]<sub>D</sub>22 71.6° (c 1, absolute EtOH). The Me<sub>2</sub>CO mother liquor from the above quinine salt evaporated to dryness, extracted with Et<sub>2</sub>O, the extract washed with dilute H<sub>2</sub>SO<sub>4</sub> containing SO<sub>2</sub>, and evaporated gave the l-isomer monohydrate (XVIb) of XVI, [α]<sub>D</sub>23 (after drying) -53.5° (c 0.6, absolute EtOH). XVIa (4.08 g.) in 20 cc. MeOH added to 100 cc. 0.001M Na<sub>2</sub>CO<sub>3</sub>, treated promptly with 1 g. K nitrosodisulfonate in 200 cc. H<sub>2</sub>O, after 5 min. acidified to Congo red, and filtered gave 3.66 g. d-isomer (XVa).H<sub>2</sub>O of XV, decompose 268-76°, [α]<sub>D</sub>21 163° (c 0.5, XIII); XVa.XIII orange-red needles, m. 182-90°, resolidifying and rem. 285-90° (decomposition), [α]<sub>D</sub>21 131° (c 0.4 XIII). XVIb treated as above gave the impure l-form (XVb).H<sub>2</sub>O of XV, which when crystallized from XIII gave a mixture of dark red prisms of XV and orange red needles of XVb, imperfectly separated by solution in Me<sub>2</sub>CO and fractional precipitation with petr. Et<sub>2</sub>O, XVb being more soluble than XV. The purest fraction of XVb.XIII, orange-red needles, had [α]<sub>D</sub>21 -84 (c 0.4, XIII). XV in AcOH-XIII was heated 1 hr. with 1,2-(H<sub>2</sub>N)<sub>2</sub>C<sub>6</sub>H<sub>4</sub>, giving 90% dl-1,2-benzo-3-(2-hydroxy-3-carboxy-1-naphthyl)-4-carboxyphenazine, pale yellow, m. 300-304° (decomposition) (from aqueous XIII or aqueous HCONMe<sub>2</sub>), giving a rather insol. Na salt, a red color with H<sub>2</sub>SO<sub>4</sub>, a blue-green color with FeCl<sub>3</sub> in alc., and not coupling with p-HO<sub>3</sub>SC<sub>6</sub>H<sub>4</sub>N<sub>2</sub>Cl. The preceding phenazine derivative with Cu powder and quinoline gave 20% 1,2-benzo-3-(2-hydroxy-1-naphthyl)phenazine, yellow, m. 303-5° (from AcOBu), giving no color with H<sub>2</sub>SO<sub>4</sub> or aq NaOH, but a deep red with NaOH in EtOH. 4-Amino-3-hydroxy-2-naphthoic acid (10 g.) was stirred and refluxed 1 hr. with 600 cc. N H<sub>2</sub>SO<sub>4</sub> containing 0.1 g. benzoquinone, giving 7-8 g. 3,4-dihydro-2-naphthoic acid (XVII), m. 237-9° (decomposition), which treated in Et<sub>2</sub>O with N<sub>2</sub>O<sub>4</sub> at 0° and cooled to -70°, gave 2-carboxy-3,4-naphthoquinone (XVIII), m. 169-80° (decomposition) (from glacial AcOH) (for the preparation of larger amts. of XVIII, CHCl<sub>3</sub> should replace Et<sub>2</sub>O to avoid danger). The Me ester of XVII heated with Hg(OAc)<sub>2</sub> in MeOH gave the Me ester of XVIII, m. 158-9°. Equimolar amts. of the Na salt of XVIII and Na 3-hydroxy-2-naphthoate under N in H<sub>2</sub>O containing AcONa condensed and acidified gave 46% XVI, decompose 335-40°, which with N<sub>2</sub>O<sub>4</sub> or K nitrosodisulfonate in NaHCO<sub>3</sub> gave XV. Na 2-amino-6-naphthalenesulfonate treated with Ac<sub>2</sub>O, brominated and saponified with KOH, gave K 1-bromo-2-amino-6-naphthalenesulfonate, leaflets (from H<sub>2</sub>O); free acid (XIX), crystalline powder having no m.p. 2,6-(H<sub>2</sub>N)(HO<sub>3</sub>S)C<sub>10</sub>H<sub>6</sub> heated with Ac<sub>2</sub>O, brominated in concentrated aqueous solution and then methylated, gave Me 1-bromo-2-acetamido-6-

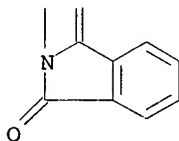
naphthalenesulfonate, yellow needles, m. 169-71° (from C6H6-petr. ether). The following derivs. of 1-bromo-2-cyano-6-naphthalenesulfonic acid (XX) were prepared: (from diazotized XIX carried through the Sandmeyer reaction) the gelatinous K salt monohydrate of XX; K salt-HCONMe<sub>2</sub>, needles; sulfonyl-chloride (XXa), C<sub>11</sub>H<sub>5</sub>O<sub>2</sub>NC<sub>1</sub>BrS, yellow prisms, m. 186-9° (from PhMe); Me ester of XX, yellow microcrystals, m. 205-6°; dimethylamide (XXb) (prepared from XXa and Me<sub>2</sub>NH), colorless, m. 190-1°. The K salt of XX heated with 25% KOH and acidified to Congo red gave K 1-hydroxy-2-carboxy-6-naphthalenesulfonate, yellow microcrystals, giving a greenish blue color with FeCl<sub>3</sub>. XXb heated 5 hrs. at 240-60° with Cu powder gave 15-17% 2,2'-dicyano-1,1'-binaphthyl-6,6'-bis(sulfonyl dimethylamide), colorless, m. 335-7° (from aqueous XIII), and 2-cyano-6-naphthalenesulfonyl dimethylamide, m. 178-9° (from 90% EtOH), the latter being separated by its greater solubility in boiling EtOH. [In the following, (XXI), (XXIa), and (XXIb) refer to DL-, D-, and L-phenylalanine, resp.]. Catalytic dehydrogenation measurements of amino acids in the presence of pyridine and AcOH using various quinones as catalysts were made by the method of Langenbeck, et al. (C.A. 38, 14934). The catalytic activities of the quinones were reduced by the introduction of CO<sub>2</sub>H groups, and greatly lowered by introducing CO<sub>2</sub>Me groups. Even without the presence of DL-alanine as substrate, XVIII itself took up O, and was greatly degraded, hence the manometric measurements led to no definite conclusions, either in this case or with other quinones which readily took up O. XXIb was dehydrogenated about 30% more rapidly by XVb than by XVa. L(+)-Arginine and L(+)-valine were also degraded somewhat more rapidly by XVa than by XVb. Results with glutamic acid and histidine were inconclusive. With XVa there was always an initial time lag in the rate of dehydrogenation and maximum reaction rates were attained only after 2-4 hrs. When small amts. of hemin (10-6 moles per 10-5 mole catalyst and 7.1 moles substrate) were used, the initial time lag disappeared. Although the rate of O consumption showed no marked increase when XVa acted upon XXIa, there was a decided rate increase in the dehydrogenation of XXIb. Hemin also increased the catalytic activity of XII in the dehydrogenation of either XXIa or XXIb. Manometric studies were made only with D- or L-amino acids. However, the dehydrogenation of XXI was studied as follows. XXI (0.6 g.) in 30 cc. 10% AcOH and 198 mg. XVa in 70 cc. pyridine was shaken 7 hrs. with air at 37°, acidified with 5N HCl, treated with SO<sub>2</sub> and extracted 10 hrs. with Et<sub>2</sub>O. The residue, made alkaline with solid NaOH, was reextd. with Et<sub>2</sub>O to remove pyridine, and from the residual concentrated NaCl solution the N-(2,4-dinitrophenyl) derivative (XXII) was isolated and converted by CH<sub>2</sub>N<sub>2</sub> to 558 mg. of a mixture of Me N-(2,4-dinitrophenyl)alanines (XXIII) [α]<sub>D</sub><sup>22</sup> 2.4° (from dry XIII), purified by solution in C<sub>6</sub>H<sub>6</sub>-petr. ether, chromatographing on CaCO<sub>3</sub>, and eluting with Me<sub>2</sub>CO-MeOH. The mother liquor from XXII, on purification and esterification gave 20 mg. of a mixture similar to XXIII, [α]<sub>D</sub><sup>22</sup> 39° (in XIII). From pure XXIa was formed similarly Me N-(2,4-dinitrophenyl)-D-β-phenylalanine, yellow needles, m. 111.5-112°, [α]<sub>D</sub><sup>22</sup> 102° (c 1, XIII). Apparently 51.5% of the original XXI had been recovered (as XXIII), and from the [α]<sub>D</sub> this was judged to contain 51.6% XXIa and 48.4% XXIb. 22 references.

- IT 116281-45-9, [1,1'-Binaphthalene]-2,2'-dicarboxylic acid, 3,3'-dimethoxy-4,4'-diphthalimido-, dl-, dimethyl ester (preparation of)
- RN 116281-45-9 HCAPLUS
- CN [1,1'-Binaphthalene]-2,2'-dicarboxylic acid, 3,3'-dimethoxy-4,4'-diphthalimido-, dimethyl ester (6CI) (CA INDEX NAME)

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CC 10 (Organic Chemistry)  
 IT 21905-88-4, 2-Naphthoic acid, 3,4-dihydro-3,4-dioxo- 22440-38-6,  
 2-Naphthoic acid, 3,4-dihydro- 89509-95-5, 2-Naphthoic acid,  
 3,4-dihydro-3,4-dioxo-, methyl ester 99073-91-3,  
 2-Naphthalenesulfonic acid, 6-amino-5-bromo- 99971-52-5,  
 2-Naphthalenesulfonyl chloride, 5-bromo-6-cyano- 100374-88-7,  
 2-Naphthalenesulfonamide, 5-bromo-6-cyano-N,N-dimethyl-  
 100724-19-4, 2-Naphthalenesulfonamide, 6-cyano-N,N-dimethyl-  
 100727-90-0, 2-Naphthoic acid, 3-methoxy-4-nitro-, methyl ester  
 100968-75-0, 2-Naphthoic acid, 4-acetamido-1-iodo-3-methoxy-,  
 methyl ester 101089-27-4, 2-Naphthoic acid, 1-(acetoxymethyl)-4-  
 amino-3-methoxy-, methyl ester 101102-68-5, 2-Naphthoic acid,  
 4-acetamido-1-bromo-3-methoxy-, methyl ester 102183-58-4,  
 2-Naphthoic acid, 1-iodo-3-methoxy-4-phthalimido-, methyl ester  
 102467-03-8, 2-Naphthoic acid, 3-methoxy-4-phthalimido-, methyl  
 ester 103402-91-1, 5,5'-Bibenzo[a]phenazine 104398-58-5,  
 [5,5'-Bibenzo[a]phenazine]-6,6'-dicarboxylic acid, dimethyl ester  
 105903-25-1, 2-Naphthoic acid, 4-amino-3-methoxy-, methyl ester  
 105947-08-8, 2-Naphthalenesulfonic acid, 6-acetamido-5-bromo-,  
 methyl ester 108618-83-3, 2-Naphthoic acid, 4-acetamido-3-  
 methoxy-, methyl ester 114159-81-8, [1,1'-Binaphthalene]-2,2'-  
 dicarboxylic acid, 4,4'-diamino-3,3'-dimethoxy-, dl-, dimethyl  
 ester 114398-27-5, [1,1'-Binaphthalene]-6,6'-disulfonamide,  
 2,2'-dicyano-N,N,N',N'-tetramethyl- 114637-00-2,  
 Benzo[a]phenazine-6-carboxylic acid, 5-(3-carboxy-2-hydroxy-1-  
 naphthyl)-, dl- 116079-82-4, 2-Naphthol, 1-benzo[a]phenazin-5-yl-  
 116213-17-3, [1,1'-Binaphthalene]-2,2'-dicarboxylic acid,  
 4,4'-bis(o-carboxybenzamido)-3,3'-dimethoxy-, dl-

116281-45-9, [1,1'-Binaphthalene]-2,2'-dicarboxylic acid,  
3,3'-dimethoxy-4,4'-diphthalimido-, dl-, dimethyl ester  
120088-64-4, 2-Naphthalenesulfonic acid, 6-amino-5-bromo-,  
potassium salt 123153-90-2, [1,1'-Binaphthalene]-2,2'-  
dicarboxylic acid, 4,4'-bis(o-carboxybenzamido)-3,3'-dimethoxy-,  
dimethyl ester 857222-01-6, 2-Naphthoic acid,  
1-hydroxy-6-sulfo-, potassium salt 860439-83-4, 2-Naphthoic  
acid, 4-amino-3-methoxy-, hydrochloride  
(preparation of)

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